



Alabama County Joint Bidding Program

Lowboy Tractor-
Option A

Nextran Truck Centers

BID SUBMITTAL FORM
Alabama County Joint Bidding Program
BID ITEM – LOWBOY TRACTOR OPTION A

Company Name: Nexttran Truck Centers
Address: 1801 Fulton Road
Fultondale, AL 35068

Bid Submitted by: Bruce Graham
(Name of company representative)

Title: Mack Sales Manager e-mail address: bgraham@nexttranusa.com

Phone: 205-841-4450 Fax: 205-841-4430

By submitting this bid, we agree:

Initials

That the equipment model number identified below meets the bid specs for this bid item

BG

That the bid price will be honored for all counties for the period from Jan. 1, 2024 to Dec. 31, 2024.

BG

That the equipment will be delivered at the bid price to all counties participating in the joint bid program

BG

That the company representative listed above will be the contact person for purchasing this bid item under the joint bid program

BG

That the bid is accompanied by a current catalog or model specification document for the model number identified below

BG

That the bid is accompanied by a copy of the manufacturer's standard warranty as required in the bid specifications

BG

That the bid includes the e-verify documentation required by Alabama law

BG

That, if awarded the bid, a performance bond will be provided upon request

BG

That an option sheet with individual pricing is attached

BG

Total Bid Price including options: \$ 193,404.00

Equipment Model #: PI64T

Description: Mack Trucks Pinnacle Tractor

Signature of company representative submitting bid:

Title:

Bruce Graham
Sales Manager

Bruce Graham

Only (20) units are available on this bid to ACCA Members and will be sold either on a first-come, first-serve basis, or however the ACCA and its members deem appropriate. Neither Mack Trucks and/or Nexttran Truck Centers will be obligated to deliver more than (20) units if we are awarded this contract. By awarding this contract to Nexttran Truck Centers, the ACCA and all its members acknowledge and accept this limitation to our bid. This quantity limitation shall supersede any other obligation under this contract relative to quantities.

**OPTION COST SHEET FOR
HEAVY DUTY LOW BOY TRACTOR
OPTION A**

Options

Option Price

MDRIVEHD 14 speed automated manual transmission

\$ 4,451.00

Dual purpose wet line kit

\$ 3,500.00

Aluminum cab guard

\$ 1,000.00


60" Long Light bar

\$ 1,500.00

NOTE: Award will be made on the basis of the total cost of the Low Boy Tractor with the option included. However, a county may, at its discretion, deduct the above-referenced option from the Low Boy Tractor, and in such event, the cost of the option as stated on the bid shall be deducted from the total cost of the Low Boy Tractor. There shall be no other deductions and no additions made to the Low Boy Tractor by the purchasing county or by the vendor.

Equipment Model #: PI64T

Description: Mack Trucks Pinnacle Tractor

Signature of company representative submitting bid: 

Title: Sales Manager

BID SPECIFICATIONS FOR HEAVY DUTY LOW BOY TRACTOR-OPTION A

GENERAL

These specifications shall be construed as the minimum acceptable standards for a heavy duty Low Boy tractor. Should the manufacturer's current published data or specifications exceed these standards, the manufacturer's standards shall be considered minimum and shall be furnished. All integral parts not specifically mentioned in the scope of these specifications that are necessary to provide a complete working unit shall be furnished. Additionally, the machine offered for bid shall include all standard manufacturers' equipment.

The use of specific names or numbers in the specifications is not intended to restrict the bidder or any seller or manufacturer, but is intended solely for the purpose of indicating the type, size, and quality of equipment considered best adapted to the uses of counties participating in this joint bid.

Note all units offered for bid must be of manufacturer's current production model and must be fully compliant with current EPA standards. Chassis should be equipped with the appropriate diesel particulate filter and SCR after treatment system.

BID SUBMITTAL FORM

Each bidder must submit his or her bid on the Bid Submittal Form included in the invitation to bid package. All written warranties to be submitted shall be attached to the Bid Submittal Form.

BID PRICE

The price bid shall include all destination charges, delivery charges, title fees, rebates and all other applicable costs and refunds.

MANUALS

Each unit shall be provided with one (1) copy of the operator's manual

REPLACEMENT PARTS AVAILABILITY

Parts must be available for 5 years or 500,000 miles of use for the piece of equipment bid.

WARRANTY

Bidders shall submit a copy of the manufacturer's standard warranty along with a complete explanation of the warranty with their bid. Warranty shall be transferable. Warranty must include the following minimum coverage:

Basic Vehicle: 1 year or 100,000 miles **Standard Chassis Certificate and Page 9**

Diesel Engine: 2 year or 250,000 miles. However, counties will have the option to purchase additional coverage (an extended warranty) if negotiated between the purchasing county and successful bidder within the first 9 months of truck purchase.

Standard Engine Certificate and Page 9

Transmission: 3 Year or 300,000 miles **Transmission Certificate and Page 9**

Rear Carriers: 3 Year or 300,000 miles **Carrier Certificate and Page 9**

Yes ☒ No ☐
Page # 9
or
Attachment Certificates

ASSEMBLY AND DELIVERY

The selling truck chassis dealer shall be responsible for delivery of the completed unit to the purchasing county with all requested options.

DOT INSPECTION AND SAFETY EQUIPMENT **Page 9**

Prior to delivery each unit shall be DOT inspected and include the appropriate documentation and decal. In addition each unit shall be equipped with the required fire extinguisher and reflective safety triangles.

Page 6

Page 6

Yes ☒ No ☐
Page # 6 and 9

ENGINE AND RELATED COMPONENTS

Shall be an in line 6 design 13 liter, overhead cam, turbo charged diesel engine capable of developing 505 HP with a peak torque rating of 1,900 FT#.

Yes ☒ No ☐
Page # 2 and Engine Spec Sheet

Engine shall have full wet replaceable cylinder liners, fuel injection system to be Electronic common rail injection.

Yes ☒ No ☐
Page # Engine Spec Sheet

Air intake system shall have a single dry element with a restriction indicator.

Restriction Indicated in Maintenance Section of Co Pilot Display

Yes ☒ No ☐
Page # 3 and Co Pilot Display Sheet

Turbo air shall flow through a chassis mounted charge air cooler, engine cooling system to have a minimum 1,000 square inches of frontal area, aluminum core radiator with silicone hoses throughout and coolant protection to -34 degrees F.

Page 3

Page 3

Yes ☒ No ☐
Page # 3 and BSV

Fan drive to be electronically modulated multi-speed viscous type with a poly V belt with automatic tension control. **Auto Tension in BSV**

Yes ☒ No ☐
Page # Fan Drive Brochure

Exhaust to be DUAL vertical with bright finish heat shields, elbows and stacks.

Yes ☒ No ☐
Page # 2

DPF element/SCR catalyst combined in a single unit mounted on passenger side frame rail under passenger door.

Yes ☒ No ☐
Page # 2

Factory installed integral Engine Brake.

Yes ☒ No ☐
Page # 3

Engine electronics to have:

Yes ☒ No ☐
Page # _____

Full diagnostic capabilities

Page 7 and Engine Spec Sheet and Co Pilot Display Sheet

Yes ☒ No ☐
Page # 7

Road speed limiting and Cruise Control Feature

Factory is set to 75; can be set to customer desired speed

Yes ☒ No ☐
Page # 7

Shutdown capabilities for critical engine functions

Yes ☒ No ☐
Page # 7

STARTING AND ELECTRICAL SYSTEM

12 Volt system fuse/circuit breaker protected

Yes ☒ No ☐
Page # BSV

12V gear reduction starter, 12V 160 Amp alternator (28si)

Yes ☒ No ☐
Page # 3

(3) 12V maintenance free group 31 batteries with 650 cold cranking amps each, batteries to be mounted in a single steel box with polished aluminum cover.

Yes ☒ No ☐
Page # 3

Unit should be equipped with a backup alarm

Yes ☒ No ☐
Page # 5

Bumper mounted Fog Lights

Yes ☒ No ☐
Page # 5

TRANSMISSION AND DRIVELINE

Manual eighteen (18) speed Fuller RTLO-18918B or equivalent overdrive design, with a minimum first gear reduction of 14.4 to 1.

Yes ☒ No ☐
Page # 2

Transmission should have oil cooler with dash mounted temperature gauge, left and right side PTO access gears with appropriate clearance.

Yes ☒ No ☐
Page # Transmission Spec Sheet

Eaton Advantage easy pedal manually adjusting 15.5" two plate ceramic clutch 9 springs, 6 paddle design with AIR assist feature and remote lube fittings for clutch release bearing and both crosses mounted on LH frame rail under hood.

Yes ☒ No ☐
Page # 3

Main driveline Spicer 1810HD with coated splines/ inter axle driveline 1710HD with coated spline or equivalent.

Yes ☒ No ☐
Page # 3

CAB EXTERIOR

Cab to be Class 8 designed for construction and vocational applications. Cab construction should be welded Galvanized steel shell.

Yes x No
Page # BSV

Cab doors should also be of Galvanized steel and have high visibility roll up style windows with power window and door lock control on both doors, passenger door to include a peep window in the lower half of door.

Page 7

Yes x No
Page # 7

Cab mounting should be air suspended at rear on dual air bags mounted outside of the frame rails.

Yes x No
Page # BSV

Cab should feature:

Dual air horns in addition to the standard electric signal horn

Yes x No
Page # 7

Chrome Bullet style marker lights

Yes x No
Page # 5

Bright finish heated and motorized West Coast mirrors with 8" convex mirrors mounted below the West Coast mirrors. Mirrors to be mounted on break away brackets to protect door skin.

Yes x No
Page # 7

Stainless Steel Exterior sun visor

Yes x No
Page # 7

Cab glass to be safety tinted

Yes x No
Page # 6

Cab to have grab handles of both sides of cab

Yes x No
Page # 7

Cab exterior and chassis to have all required DOT and ICC lighting (turn signal indicators, emergency flashers, rear stop, tail, turn and backup lighting.)

Yes x No
Page # BSV

Hood is to be a full tilting fiberglass design with safety latch, bright finish headlight bezels and bright finish grille.

Yes x No
Page # BSV and 7

Cab and hood paint color to be selected from manufacturer's standard non-metallic paint chart.

Yes x No
Page # 8

CAB INTERIOR

Cab interior to include the following:

Storage tray on back wall of cab and in overhead console

Yes ☒ No ☐
Page # 6

Cab interior is to be PREMIUM grade level fully groomed headliner, back wall and windshield pillar post and door panels covered.

Yes ☒ No ☐
Page # 6

Cab should have interior sun visors on both sides of cab.

Yes ☒ No ☐
Page # BSV

Cab floor should be covered with black polyurethane mat.

Yes ☒ No ☐
Page # 6

Dash features to include:

Brushed nickel appearance

Yes ☒ No ☐
Page # Interior Sheet

Center mount console with cup holders

Yes ☒ No ☐
Page # BSV

Full adjusting tilt and telescopic steering column

Yes ☒ No ☐
Page # BSV

Axle oil temperature gauges
Accessed by Co Pilot Display

Yes ☒ No ☐
Page # 6

Exhaust pyrometer

Yes ☒ No ☐
Page # 6

Manifold pressure gauge

Yes ☒ No ☐
Page # 6

Cab seats should be: Driver and rider High Back air ride design with arm rest, both seats to have fabric covering with required lap and shoulder belts.

Yes ☒ No ☐
Page # 6

Factory installed integral air conditioning with R134A refrigerant and rotary type air conditioner compressor.

Yes ☒ No ☐
Page # 6

AM/FM/CD radio with clock weather band and Blue Tooth capability, two- way radio power leads and mounting plate installed in overhead console (not on dash) with dual mirror mounted antennas.

Yes ☒ No ☐
Page # 6

Two additional dash mounted power outlets to be furnished.

Yes ☒ No ☐
Page # BSV

Windshield wipers to be two (2) speed electric with washer and intermittent feature.

Yes ☒ No ☐
Page # 6

AIR BRAKES

Full Dual Air Brake system with Bendix Road Stability System to include ABS/ATC/ESP with YAW control with heated air dryer.

Yes ☒ No ☐
Page # 3/4

Semi - trailer connection package with 16' coiler air and electrical connections with an in cab hand control valve for trailer service brakes.

Yes ☒ No ☐
Page # 5

Air compressor should have 37.4CFM capacity

Yes ☒ No ☐
Page # 3

FRAME/BUMPER/FUEL TANKS

Steel 120,000 PSI frame rails 11.81" x 3.54" x 0.37" with a section modulus of 20.6 and a RBM per rail of 2,470,000.

Yes ☒ No ☐
Page # 4

235" wheelbase with adequate frame rail clearance to accommodate a third axle, if desired.

Yes ☒ No ☐
Page # 4

148" cab to axle.

Yes ☒ No ☐
Page # 4

Heavy duty cross - members with huck bolt fasteners throughout.

Yes ☒ No ☐
Page # 4 and BSV

Bright Finish stainless steel clad aluminum with a swing out towing clevis each side.

Yes ☒ No ☐
Page # 4

Fuel tank(s) to be polished aluminum with a minimum of 150 Gallon capacity

Yes ☒ No ☐
Page # 4

Driver's side frame or fuel tank mounted step(s) and tread plate platform to access Trailer connections.

Yes ☒ No ☐
Page # 4

Chassis to be equipped with frame mounted bright finish quarter fenders mounted ahead of front pull axle and rear mud flaps mounted at end of frame on heavy duty spring loaded brackets

Yes x No
Page # 4/5

FIFTH WHEEL

Tractor to be equipped with a Fontaine, Holland, or Jost air slide fifth wheel. Fifth wheel should have pinning feature for use with a dump trailer. Pins should be removable type for Multi - purpose use.

Yes x No
Page # 5

FRONT AXLE

14,600 Reverse Elliot design steel I beam axle with 14,600# taper leaf suspension, 14,600# integral power steering, shock absorbers and a maximum of 34.5" spring centers. **SET FORWARD** front axle position only. Unitized sealed (maintenance free) front wheel hubs. Sealed tapered kingpins and bearings. Meritor "S" cam design 16.5" x 6" Q+ brakes with outboard mounted drums, dust shields and automatic slack adjusters. Front wheels to be Machine Cleaned Buffed Aluminum ten (10) hole bud style, hub piloted 24.5" x 8.25". Front tires to be 16 ply 11R24.5 radials Bridgestone, Goodyear, Michelin, Firestone, Continental, General Or Yokohama.

Yes x No
Page # 3/7/ Front Axle Sheet

REAR AXLE

Meritor RT 46-164EH 46,000# capacity (3.58-4.10 based on transmission) ratio tandem axle with in cab power divider lock out valve with warning light and buzzer, lube pump and filter. In addition both rear axles should be equipped with driver controlled inter wheel differential locks with manual valve and warning light. 60 inch axle spacing. 46,000# air ride rear suspension with shock absorbers and transverse torque rods on both rear axles. Meritor "S" cam design 16.5" x 8 5/8" Q+ brakes with outboard drums, dust shields and automatic slack adjusters. Brake chambers shall be (4) 30/30 style chambers with raised chambers on rear axle. Machine Cleaned Buffed Aluminum ten (10) hole bud style, hub piloted 24.5 x 8.25 rear wheels. Rear tires to be 16 ply 11R24.5 radials Bridgestone, Goodyear, Michelin, Firestone, General, Continental, Yokohama.

Yes x No
Page # 4 and Rear Axle Sheet

OPTIONS

In addition the bid must also include the cost for each of the following options, itemized separately on the bid:

14 speed Automated Manual Transmission (MDRIVEHD .78 Over Drive Series only) 14 speed forward and 4 speed reverse with Ultra Low Creeper 32.04 Lo gear forward and 37.49 Lo reverse with factory installed 1300 series PTO flange with dash mounted control

Dual-purpose wet line system for use with a dump trailer or a detachable neck low boy trailer.

Yes ☒ No ☐
Page # See Addendum

Aluminum Cab Guard with rear window

Yes ☒ No ☐
Page # See Addendum

60-Inch Long light bar with warning lights (strobes or rotators) work lights, stop lights, tail lights and turn signals

-light bar shall be mounted on the Aluminum Cab Guard with Controls
Mounted on the Dash inside the Cab

Yes ☒ No ☐
Page # See Addendum

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CUSTOMER PROPOSAL



PREPARED FOR

DATE

10/20/2023

PREPARED BY

NEXTRAN CORPORATION
1801 FULTON ROAD
FULTONDALE
AL 35068-1605

QUOTE INFORMATION

NEXT2023000356C614
PINNACLE 64T DAYCAB MACK SPEC
Qty: 1



TECHNICAL SPECIFICATION

PINNACLE 64T DAYCAB MACK SPEC



APPLICATION PACKAGES	DESCRIPTION
CHASSIS CONFIGURATION PACKAGE	ONEBOX EATS, RIGHT FRONT BATTERY BOX, 18.4 GALLON (70L) DEF, DUAL 26" FUEL TANKS

CUSTOMER/VEHICLE INFO	DESCRIPTION
S CHASSIS (BASE MODEL)	PINNACLE 64T DAYCAB MACKSPEC
S ASSEMBLY PLANT	Made in Macungie, PA USA
CUSTOMER FLEET SIZE	REGIONAL FLEET 25 OR MORE VEHICLES IN OWN FLEET OF ANY VEHICLE BRAND
S ORDER TYPE REQUIREMENTS	RETAIL OR STOCK - CUSTOM SPECIFICATIONS
TYPE OF SERVICE	MUNICIPAL
S WARRANTY REGISTRATION LOCATION	USA - WARRANTY REGISTRATION LOCATION
EMISSION WARRANTY CERTIFICATION	EPA (only) for Mack MP7 / MP8 Diesel
INTENDED REGISTRATION LOCATION	ALABAMA
S INITIAL REGISTRATION LOCATION	USA REGISTRATION
BRAND ORNAMENT	BULLDOG BRAND ORNAMENT, CHROME
S LANGUAGE-PUBS/DECAL/SIGNS	ENGLISH
VEHICLE USE & BODY/TRAILER TYPE	VAN TRAILER
S TRANSPORT CYCLE	LOCAL DISTRIBUTION
S GROSS COMBINATION WEIGHT (CA in PC29 only)	80,000 LB (36 TONNES) GROSS COMBINATION WEIGHT
S BRAKE REGULATION	BRAKE REGULATION, STOPPING DISTANCE 76M (250FT)
TOPOGRAPHY	GRADES <3% GREATER THAN 98% OF DRIVING DISTANCE MAX GRADE 8%
S AMBIENT TEMP UPPER LIMIT (GTA)	AMBIENT TEMPERATURE HOT. WARMER THAN 104 F (40 C) ALLOWED UP TO 25 HOURS PER YEAR
S OPERATING TERRAIN GRADE CONDITIONS	ON HIGHWAY, STARTING GRADES<16%
S LOADING SURFACE FACTOR	CONCRETE LOADING AND / OR UNLOADING SURFACE
VEHICLE VOCATION	PICKUP & DELIVERY / SHORT HAUL SERVICE

ENGINE/TRANSMISSIONS	DESCRIPTION
ENGINE PACKAGE, COMBUSTION	MP8-505C (VC) MACK 505HP @ 1500-1700 RPM (PEAK) 2100 RPM (GOV) 1850 LB-FT, US'21
S GEAR SELECTION TUNING	BASIC, GEAR-SELECTION TUNING
S GHG APPLICATION, VEHICLE	GREEN HOUSE GAS HIGHWAY APPLICATION
TRANSMISSION	FULLER RTLO-18918B (14.40/0.73)
S GEARBOX 12TH GEAR LOCK-OUT	WITHOUT 12TH GEARBOX GEAR LOCK-OUT

EXHAUST/EMISSIONS	DESCRIPTION
NOX LIMITS	CARB LEGACY / EPA (200MG/HP/HR), 50 State Idle Compliance
S IDLE EMISSION LABEL LOCATION (CA in PC29 only)	IDLE EMISSION LABEL LOCATION, LOWER LH CORNER OF DRIVER DOOR
S DPF DIESEL PARTICULATE FILTER	CLEARTECH ONE BOX E.A.T.S. RH SIDE UNDER CAB US17 / US21
CHASSIS MOUNTED EMISSIONS FINISH	BRIGHT FINISH DEF COVER & PAINTED DPF COVER
S DIESEL EXHAUST FLUID TANK	18.4 GALLON (70 L) 26" LEFT SIDE FRAME MOUNTED
AD-BLUE TANK VENTILATION FILTER	DEF TANK VENTILATION FILTER
EXHAUST	DUAL VERTICAL OUTBOARD MOUNTED STRAIGHT EXHAUST STACK TURNED OUT END
EXHAUST STACK HEIGHT	11' 6" FROM GROUND
EXHAUST SYSTEM MATERIAL FINISH	DUAL, BRIGHT FINISH HEAT SHIELDS, STACKS, ELBOWS
EMISSION ON BOARD DIAG CONTROL	EMISSION OBD, DISPLAY ONLY, USA2024

TECHNICAL SPECIFICATION *(cont.)*



ENGINE EQUIPMENT		DESCRIPTION
	AIR CLEANER	UNDER HOOD SINGLE ELEMENT DRY TYPE W/AIR INTAKE FROM BOTH SIDES OF HOOD
S	BUG SCREEN	BLACK ALUMINUM BUG SCREEN MOUNTED BEHIND GRILLE, WITHOUT WINTER FRONT COVER
S	AIR COMPRESSOR/DRYER	WABCO HEATED SS-HP AIR DRYER W/ WABCO 636 (37.4 CFM) AIR COMPRESSOR
S	ALTERNATOR	DELCO 12V 160A (28SI) BRUSH-TYPE
S	BATTERIES	(3) MACK 12V 760/2280 CCA THREADED STUD TYPE
S	BATTERY BOX - MOUNTING (x)	RH RAIL UNDER CAB (3 BATTERY MAX)
	BATTERY BOX COVER	POLISHED ALUMINUM
	STARTER MOTOR	12 VOLT MELCO STARTER (MITSUBISHI ELECTRIC)
	ENGINE BRAKE	MACK MP8 POWERLEASH
S	ENGINE BRAKE LIGHTING (CA)	VEHICLE AND TRAILER (IF APPLICABLE) STOP LAMPS ACTIVATE UPON SERVICE BRAKE APPLICATION ONLY(3899000)
S	FAN DRIVE	BEHR FAN AND ELECTRONIC MODULATING VISCOUS FAN DRIVE
S	COOLANT PROTECTION	ETHYLENE GLYCOL FULLY FORMULATED COOLANT (50/50 MIX DYED PINK) TO -34DEG, W/ FILTER
	HOSES - RADIATOR/HEATER	SILICONE RADIATOR AND HEATER HOSES
S	FUEL-WATER SEPARATOR	MACK W/MANUAL DRAIN VALVE V2 (INTEGRAL W/ PRIMARY FUEL FILTER)
S	ENGINE HEATERS	120v 1500w BLOCK HEATER ONLY (120V-15A PLUG)
S	OIL SUMP	OIL PAN
S	TETHER DEV PKG, CAPS & COVERS	FURNISH CAP RETAINER FOR OIL FILL & RADIATOR OVERFLOW TANK
S	ENGINE STOP, EMERGENCY (CA in PC29 only)	WITHOUT ENGINE STOP, EMERGENCY

CLUTCH/TRANS EQUIPMENT		DESCRIPTION
	GEAR SHIFTER	EATON/FULLER SHIFTER
	CLUTCH	EATON ADVANTAGE SOLO 9-SPRING,2PLATE 15.5" CERAMIC 6 PADDLES, SELF ADJUST
	CLUTCH ACTUATION SYSTEM & PEDAL PAD	AIR ASSIST CLUTCH CABLE SYSTEM WITH RUBBER PEDAL
	DRIVELINE - MAIN	SPICER SPL350XL LITE - XLARGE (PROPS-XL)
	DRIVELINE - INTERAXLE	SPICER SPL250XL "LITE SERIES"
S	PROPELLR SHAFT MAIN, UNVSL JNT	UNIVERSAL JOINT HALF-ROUND TYPE
S	PROP SHAFT INTERAXL UNIV JOINT	HALF-ROUND UNIVERSAL JOINT
S	TRANSMISSION OUTPUT TORQUE	TRANSMISSION OUTPUT TORQUE BASIC
S	LUBRICANTS, TRANSMISSION	SYNTHETIC OIL IN TRANSMISSION
	TRANSMISSION OIL COOLER	TRANS OIL COOLER (INTEGRAL OIL PUMP)

FRONT AXLE EQUIPMENT		DESCRIPTION
	FRONT AXLE	14600# (6600 KG) MACK FXL14.6 STRAIGHT SPINDLE/UNITIZED BEARINGS
	SPRINGS - FRONT	MACK TAPERLEAF 14600# (6600 KG) GROUND LOAD RATING, EQUAL BIAS
	FRONT AXLE BRAKES	MERITOR "S" CAM TYPE 16.5" x 6" Q+
S	BRAKE, FRONT	CAST IRON
	FRONT AXLE BRAKE DUST SHIELD	DUST SHIELDS FOR FRONT AXLE
	FRONT BRAKE ADJ. MANUFACTURE	MERITOR - AUTOMATIC
S	FRONT BRAKE CHAMBER MFG.	FRONT BRAKE CHAMBER MANUFACTURER, HALDEX
	HUB MATERIAL, FRONT	FERROUS
	FRONT AXLE LUBRICANT	FRONT AXLE LUBE, FAG NLGI2 GREASE
S	STEERING	TRW THP60 POWER

TECHNICAL SPECIFICATION *(cont.)*



REAR AXLE EQUIPMENT		DESCRIPTION
	REAR AXLE	46000# (20900kg) MERITOR RT46-164EH
S	REAR AXLE CASING WIDTH	W/O WIDE TRACK AXLE
	LUBE PUMP, REAR AXLE	LUBE PUMP AND FILTER
S	DRIVE AXLE LUBRICANT	DRIVE AXLE LUBE, SHELL 75W90 SYNTHETIC OIL
S	CARRIER - REAR AXLE	VENDOR AXLES
	TRACTION DIFFERENTIAL	INTERWHEEL DIFFERENTIAL LOCK, ALL REAR AXLES
S	POWER DIVIDER LOCKOUT	INTERAXLE POWER DIVIDER LOCKOUT, W/BUZZER & LIGHT
	REAR AXLE RATIO	3.58 RATIO
	REAR SUSPENSION	MACK AL-461 AIR 46,000 lb (NOT FOR USE WITH AIR DISC BRAKES)
	BOGIE SPREAD, REAR	60" AXLE SPACING (BOGIE WHEELBASE)
S	SUSPENSION LEVELLING DEVICE (CA in PC29 only)	ELECTRICAL REGULATION LEVELING DEVICE
S	AIR SUSPENSION DUMP WARNING	AIR SUSPENSION DUMP, SPEED LIMITED, WARNING INDICATOR & BUZZER
S	REAR SHOCK ABSORBER	REAR SHOCK ABSORBER
S	TRANSVERSE TORQUE RODS, R SUSP	TRANSVERSE TORQUE ROD - ALL AXLES
S	AUX.SPRING BRAKE QTY	AUX SPRING BRAKE QTY, 4 CHAMBERS
	BRAKES - REAR	MERITOR - CAM 16.5"x8 5/8" Q+ (Total for QTY = 2)
S	BRAKE, DRIVE, REAR	CAST IRON
	REAR BRAKE ADJ MANUFACTURE	MERITOR - AUTOMATIC (Total for QTY = 2)
	DRIVE AXLE BRAKE DUST SHIELD	DUST SHIELDS FOR REAR AXLE
	REAR BRAKE CHAMBER SIZE	REAR SPRING BRAKE CHAMBERS 30/30 TYPE
	BRAKE ORI REAR-MOST DRIVE AXLE	DRUM BRAKE CHAMBER ORIENTATION: Middle Mount - Forward of Axle - Chamber Up
S	PARKING BRAKE CHAMBER	HALDEX "GOLD SEAL PLUS" (3" STROKE) BRAKE CHAMBERS (Total for QTY = 2)
	HUB MATERIAL, DRIVE	IRON PRESET REAR HUB W/INTEGRATED SPINDLE NUT
S	ANTILOCK BRAKE SYSTEM	MACK ROAD STABILITY ADVANTAGE BENDIX ABS/ATC/ESP W/YAW CONTROL 4S4M
S	BRAKE VALVE VERSION	BENDIX SWITCHES AND VALVES WHERE POSSIBLE
S	SPRING BRAKE INVERSION VALVE	TRACTOR SPRING BRAKE INVERSION VALVE

FRAME EQUIPMENT/FUEL TANKS		DESCRIPTION
	WHEELBASE	235"
	AF (OVERHANG)	62"
	FRAME RAILS & LINERS	9.5 x 90 x 300mm - (0.37" x 3.54" x 11.81"); RBM 2,470,000 LB-IN
	CROSSMEMBERS	HIGHWAY SEVERE DUTY BOC AND BCL CROSSMEMBERS
	REAR CROSSMEMBER OPTIONS	BOXED AND TAPERED CROSSMEMBER
	REAR FRAME TREATMENT	TAPERED AND FLANGED RAIL ENDS (28 deg.)
	MUDFLAP HANGERS, REAR AXLE	FLEET ENGINEERS FB-27 SHORTIE BRACKET #33-04647;30.25"L;W/CONSPICUITY FEATURE
	MUDFLAP TYPE, REAR AXLE	BLACK POLYETHYLENE WITH WHITE "MACK" LETTERS
S	MUDFLAP, FRONT AXLE	BLACK POLYARMOUR (NO NAME TO APPEAR ON FLAP) (NOT ANTI-SPRAY TYPE)
S	FRONT BUMPER	FLUSH-STAINLESS CLAD ALUMINUM
S	FUEL LEVEL SENDER UNIT, LIQUID	BASIC FUEL LEVEL SENDER MOUNTED ON L.H TANK
	FUEL TANK - LH	117 GALLON (445 L) 26" ALUMINUM ROUND
	FUEL TANK - RH	50 GALLON (190 L) 26" ALUMINUM ROUND
	FUEL TANK POLISH OPTION	POLISHED ALUMINUM
	FUEL HOSES, LIQUID	BRAIDED HOSE
S	FUEL FILLER NECK OPTIONS	WITHOUT FILLER NECK SCREEN, WITH NON-LOCKABLE FUEL TANK CAP
	FUEL LINE OPTIONS, LIQUID	DUAL DRAW AND RETURN FUEL SYSTEM

PRICELIST DATE

20230717

QUOTATION

NEXT2023000356C614

DATE

10/20/2023

PAGE

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TECHNICAL SPECIFICATION *(cont.)*



FRAME EQUIPMENT/FUEL TANKS		DESCRIPTION
S	CAB INSTEP VERSION	STANDARD 2 STEP CAB ACCESS
S	STEPS (BRIGHT) - FUEL TANK	STANDARD FINISH STEPS AND BRIGHT FINISH STRAPS
	QUARTER FENDERS	STAINLESS STEEL QUARTER FENDERS

AIR/BRAKE		DESCRIPTION
S	AIRTANK DRAIN VALVE	MANUAL DRAIN VALVES, WITH LANYARD ON SUPPLY TANK ONLY
	AIRTANK MATERIAL	ALUMINUM AIR TANK, POLISHED ALUMINUM FINISH
S	RELOCATE AIR RESERVOIRS	W/O RELOCATED AIR TANKS
S	PARKING BRAKE VALVE	TWO (2) VALVE DUAL BRAKE SYSTEM - TRAILER SUPPLY AND TRACTOR-TRAILER PARK

ELECTRICAL		DESCRIPTION
	BACK-UP ALARM	ECCO BACK-UP ALARM 575 CONSTANT SOUND LEVEL 107 dB
	AUX. FOG LAMP	FOG LAMPS (ROUND)
S	ROOF & SIDE MARKER LIGHTS	(5) TRUCKLITE CHROME BULLET ROOF MARKER & STANDARD MARKER / DIRECTIONAL SIGNAL
S	HEADLAMP BULB TYPE	HEADLAMP BULB TYPE, LED
S	DAYTIME RUNNING LIGHTS	W/OVERRIDE SWITCH, PARK BRAKE & ENGINE RUNNING ACTIVATED
S	DRL OVERRIDE SPEED THRESHOLD	DRL OVERRIDE SPEED THRESHOLD 8 KMPH (5 MPH)
	TAIL LAMPS	INCANDESCENT TAIL LAMPS

TRAILER CONNECTIONS		DESCRIPTION
	FIFTH WHEEL	AIR - HOLLAND FW35 SERIES LH RELEASE, NO TILT (AVAIL: 8.82")
	5TH WHEEL MOUNTING BRACKETS	SLIDING 5TH WHEEL MTG, 18.4" TRAVEL
S	FIFTH WHEEL ANGLE MATERIAL	STEEL FIFTH WHEEL ANGLES
S	5TH WHEEL ANGLE THICKNESS	5TH WHEEL ANGLE, 10MM THICKNESS
	5TH WHEEL OFFSET	50" BOGIESPREAD = -5" OFFSET, 52" BS = -4", 54" BS = -3", 55" BS = -2.5"
	GROUND TO 5TH WHEEL TOP HGT. (CA in PC29 only)	1308MM (51.5") GROUND TO 5TH WHEEL TOP HEIGHT
	FIFTH WHEEL LEG-HEIGHT (KAX Result)	224MM (8.81"), FIFTH WHEEL LEG-HEIGHT (SELECTED BY KAX)
S	TRAILER GLAD HAND COUPLINGS	GLAD HAND COUPLINGS - NORTH AMERICAN STD
S	TRAILER BRAKE VALVE	HAND CONTROL VALVE FOR TRAILER BRAKES W/ AIR CONNECTIONS OR SERVICE BRAKES W/O AIR CONNECTIONS
S	TRAILER CONNECTION POSITION	TRAILER AIR BRAKE CONNECTIONS, BACK OF CAB
S	TRAILER ACCESS PACKAGE	LOW PROFILE DECK PLATE
S	TRAILER BRAKE HOSEHANGER	HOSE TENDER, POGO STICK (CHASSIS MOUNTED)
S	TRAILER ELECTRICAL RECEPT	SINGLE, 7 PINS STD SAE TYPE, BACK OF CAB
	TRAILER BRAKE HOSES & CABLES	TRAILER AIR HOSES (16' COILED TYPE)
	TRAILER ELECTRICAL CABLE CONFIG	TRAILER ELECTRICAL CORD CONFIG, COILED, LONG(4570MM OR 15')
S	TRAILER CONNECTORS HOLDER	ELECTRICAL PLUG HOLDER (INCLUDES GLAD HAND STORAGE)

PTO		DESCRIPTION
	POWER TAKE OFF CONTROL	TRANSMISSION PTO SWITCH AND LIGHT WITH WIRING AND PIPING FOR LOCAL INSTALLATION

SPECIALTY EQUIPMENT		DESCRIPTION
S	AUXILIARY POWER UNIT	WITHOUT AUXILIARY POWER UNIT
S	LANE SUPPORT SYSTEM (LSS)	WITHOUT LANE SUPPORT SYSTEM

TECHNICAL SPECIFICATION *(cont.)*



SPECIALTY EQUIPMENT		DESCRIPTION
S	DATA CAPTURE	WITHOUT DATA CAPTURE
S	CAMERA, SURVEILLANCE	WITHOUT CAMERA

CAB INTERIOR (A THRU G)		DESCRIPTION
S	SPEEDOMETER -&- GAUGES - UNIT(s) OF MEASURE	U.S. UNITS (PREDOMINANT)
	GAUGE - PACKAGE, SECONDARY	2ND GA PKG W/BOOST PRESS, TRANS OIL TEMP, PYRO, APP AIR PRESS
	GAUGE OIL TEMP-REAR AXLE	REAR AXLE OIL TEMP GAUGE IN DID (DRIVER INFORMATION DISPLAY)
S	AIR CONDITIONING/HEATER	BLEND AIR HVAC W/"ATC" TEMP REGULATION
S	CUPHOLDER	CUPHOLDER
S	DOME LAMP, INTERIOR	(4) DOME LAMPS - DOOR AND SWITCH ACTIVATED
	FIRE EXTINGUISHER	5LB (ABC RATED) MOUNTED BETWEEN DRIVER SEAT BASE AND DOOR VALVE AIMED REARWARD
	FLOOR COVERING	POLYURETHANE FLOOR MAT W/ REMOVABLE INSERTS

CAB INTERIOR (H THRU R)		DESCRIPTION
S	INSTMNT CLUSTER LANGUAGE	DEFAULT: ENGLISH, SPANISH, FRENCH
S	KEY TYPES FOR DOORS	ALL CHASSIS KEYED AT RANDOM
S	DOOR OPENING OPTIONS	W/O ELECTRONIC KEYLESS ENTRY
	FORWARD OVERHEAD STORAGE	(2) STORAGE COMPARTMENTS AND NET RETAINERS W/CENTER MOUNTING FOR CB PROVISIONS
S	AUDIO ACCOMMODATION	PREMIUM STEREO, AM/FM, MP3, WEATHER BAND, BLUETOOTH
	ANTENNA - RADIO	48" ANTENNA RIGHT SIDE MIRROR MOUNTED
	ANTENNA - CB RADIO	48" ANTENNA LEFT SIDE MIRROR MOUNTED
S	POWER LEADS	POWER LEADS (5-WAY BINDING POSTS FOR CB RADIO) IN HEADER CONSOLE
S	AUDIO SPEAKER LOCATION	SPEAKER LOCATION, IN DOORS, MIDDLE HIGH SIDE PANEL
S	COM.RADIO PREP KIT (CB)	MOUNTING PLATE AND VELCRO STRAP IN HEADER CONSOLE
S	AUXILIARY REAR WINDOW	REAR WINDOW (FIXED TYPE)
S	REAR WALL STORAGE COMPARTMENT	STORAGE POUCH REAR
	REFLECTOR KIT	W/O SLEEPER BOX FURNISH KIT PARALLEL TO OUTSIDE SURFACE OF RIDER'S SEAT BASE

CAB INTERIOR (S THRU Z)		DESCRIPTION
	INTERIOR TRIM LEVELS	PREFERRED TRIM PACKAGE, STEEL GRAY (Package 12A)
	SEAT - DRIVER'S	MACK-AIR, HIGH BACK, 4 CHAMBER AIR LUMBAR, BOLSTER, EXTENSION
	SEAT COVERING - DRIVER'S	DRIVER'S SEAT - STEEL GREY VINYL / CLOTH MIX
	SEAT - PASSENGER'S	MACK-AIR, HIGH BACK, 4 CHAMBER AIR LUMBAR, BOLSTER, EXTENSION
	SEAT COVERING - PASSENGER'S	PASSENGER'S SEAT - STEEL GREY VINYL / CLOTH MIX
	SEAT SUPPORT, DUST COVER	SEAT, DUST COVER FOR DRIVER'S AND RIDER'S SEATS
	SEAT ARMREST	INBOARD MOUNTED ARM REST, DRIVER'S & RIDER'S SEAT
S	SEAT BELT(S)	LAP & SHOULDER (BOTH SEATS) CAB MOUNTED SHOULDER BELT ADJUSTMENT
S	SEAT BELT REMINDER	SEAT BELT REMINDER IN INSTRUMENT, WITH AUDIO
S	IGNITION TYPE	KEY TYPE
	STEERING WHEEL	2 SPOKE LEATHER GRIP, SATIN ALUMINUM SPOKES, WITH SWITCHES
	WINDSHIELD TYPE	TWO PIECE WINDSHIELD
S	CAB GLASS	TINTED WINDSHIELD & SIDE WINDOWS & REAR WINDOW (IF EQUIPPED)
S	WINDSHIELD WIPERS	2 SPEED ELECTRIC MOTOR W/INTERMITTENT FEATURE

TECHNICAL SPECIFICATION *(cont.)*



CAB - SLEEPER BOX		DESCRIPTION
S	REFRIGERATOR	W/O SLEEPER BOX REFRIGERATOR

CAB EXTERIOR		DESCRIPTION
S	EMBLEMS OPTION	W/O MISC ORNAMENT CHANGE OPTION
S	HOOD LATCH TYPE & FINISH	STRAP TYPE HOOD LATCH WITH BLACK FINISH
S	EXTERIOR TRIM FINISH AND PACKAGES	PINNACLE BLACK AIR INTAKE
S	GRILLE	HERITAGE DESIGN CHROME GRILLE W/ BLACK BACKGROUND
S	PASSENGER SIDE VISIBILITY OPTIONS	AUXILIARY WINDOW IN RH DOOR
S	GRAB HANDLES	PREMIUM BLACK EXTERIOR CAB GRAB HANDLE, BLACK GRAB HANDLE RH INTERIOR WINDSHIELD POST
	HORN - AIR	(2) MACK RECTANGULAR SINGLE TRUMPET (ONE EACH SIDE OF CAB ROOF)
S	HORN - ELECTRICAL	DUAL TONE
	MIRRORS - EXTERIOR	BULLDOG STYLIZED MIRRORS - LH & RH HEATED & MOTORIZED AND ILLUMINATED W/INTEGRAL CONVEX MIRROR
	SUN VISOR - EXTERIOR	SUN VISOR, EXTERIOR, STAINLESS STEEL (UNPAINTED)

AERODYNAMIC DEVICES		DESCRIPTION
S	CAB AERODYNAMIC PACKAGES	WITHOUT CAB AERODYNAMIC DEVICES
S	FRONT CHASSIS AERODYNAMIC PACKAGE	WITHOUT FRONT AERODYNAMIC FAIRINGS
S	REAR CHASSIS AERODYNAMIC PACKAGE	WITHOUT REAR AERODYNAMIC FAIRING

WHEELS & TIRES		DESCRIPTION
	TIRES BRAND/TYPE - FRONT	11R24.5 H BRIDGESTONE R250ED (14320 lbs) (Total for QTY = 2)
	WHEELS - FRONT	24.5x8.25 ACCURIDE ACCU-LITE 42362x POLISHED ALUMINUM, 6.59" OFFSET, 10 HAND HOLE (Total for QTY = 2)
	TIRES BRAND/TYPE - REAR	11R24.5 H BRIDGESTONE M799 (26440 lbs) (DRIVE ONLY) (Total for QTY = 8)
	WHEELS - REAR	24.5x8.25 ACCURIDE ACCU-LITE 42362x POLISHED ALUMINUM, 6.59" OFFSET, 10 HAND HOLE (Total for QTY = 8)
S	TIRE INFLATION VALVE	STANDARD VALVE STEMS AND CAPS
S	FRONT HUB/WHEEL TRIM	WITHOUT FRONT HUB/WHEEL TRIM
S	REAR HUB/WHEEL TRIM	WITHOUT REAR HUB/WHEEL TRIM (Total for QTY = 2)

COMMUNICATION SYSTEMS		DESCRIPTION
S	CO-PILOT - DISPLAY FEATURES ACCESS LEVEL	CO-PILOT DISPLAY, DRIVER ACCESS LEVEL 1
S	TELEMATIC GATEWAY	TELEMATICS GATEWAY, 4G/LTE AND WLAN SYSTEM WITH DIAGNOSTIC SERVICES

ENGINE ELECTRONICS		DESCRIPTION
S	OIL PRESSURE, ENGINE SHUTDOWN	OIL PRESSURE, ENGINE SHUTDOWN
	COOLANT LEVEL, ENGINE SHUTDOWN	COOLANT LEVEL ENGINE SHUTDOWN
S	COOLANT TEMP, ENGINE SHUTDOWN	COOLANT TEMP, ENGINE SHUTDOWN
S	ENGINE PROTECTION SYSTEM	ENGINE PROTECTION (SHUTDOWN)
S	ENGINE IDLE CONTROL	IDLE CONTROL, 600 RPM
	SMART IDLE ELEVATED IDLE RPM TIME	INCREASE 10 MINUTE MAXIMUM TIME
	IDLE S/D ABS TAMPER CHECK	IDLE SHUTDOWN ABS TAMPER CHECK, ENABLED
S	IDLE S/D WARNING TIME	WITHOUT IDLE S/D WARNING TIME
S	IDLE S/D IF WARM-UP TEMP	38C DEG (100F), WARM UP TEMP DELAY

TECHNICAL SPECIFICATION *(cont.)*



ENGINE ELECTRONICS		DESCRIPTION
S	IDLE S/D WARM-UP TIMER	5 MIN. WARM UP TIME DELAY
S	IDLE SHUTDOWN IF POWER > LIMIT	ENG IDLE SHUTDOWN TIME OVERRIDDEN IF TORQUE > THAN LIMIT
S	IDLE S/D OVERRIDE %ENGINE LOAD	IDLE SHUTDOWN OVERRIDE UPTO 20% ENGINE LOAD THRESHOLD
S	AMBIENT TEMP MIN TRESHOLD	AMBIENT TEMP MIN TRESHOLD, 16 DEG C, (60 DEG F)
S	AMBIENT TEMP MAX TRESHOLD	AMBIENT TEMP MAX TRESHOLD, 27 DEG C, (80 DEG F)
S	EL HD THROTTLE,MAX ROAD SPEED	ELECTRONIC HAND THROTTLE, MAX ROAD SPEED, 16 KMH (10 MPH)
	EL HAND THROTTLE,MAX ENG SPEED	ELECTRONIC HAND THROTTLE, MAX ENGINE SPEED, 2100 RPM
S	EL HAND THROTTLE,MIN ENG SPEED	ELECTRONIC HAND THROTTLE, MIN ENGINE SPEED, 700 RPM

TRANSMISSION ELECTRONICS		DESCRIPTION
	ECONO ROLL	ECONO ROLL DISABLE mDRIVE (REQUIRED FOR ALL OTHER TRANSMISSIONS)
S	TRANSMISSION ELECTRONICS PACKAGE	W/O ELEC TRANS PACKAGE OPTION (all non-Allison transmissions)
S	TRANSMISSION ELECTRONIC SHIFTING PROPERTIES	W/O ALLISON FUELSense 2.0 PROGRAMMING

VEHICLE ELECTRONICS		DESCRIPTION
S	ROAD SPEED LIMITER SETTING	105 KM/H ROAD SPEED LIMITER (65MPH)
	PEDAL RSL SETTING	105 KM/H PEDAL ROAD SPEED LIMITER (65MPH)
S	CRUISE CONTROL	CRUISE CONTROL
S	CRUISE CONTROL, MAX SPEED	MAX CRUISE, 105 KPH (65 MPH)
	CRUISE CONTROL MIN SPEED	MIN CRUISE, 32 KPH (20 MPH)
S	ENG BRK ENGAGE IN CRUISE	ENG BRK ENGAGE IN CRUISE, 3 MPH, ABOVE SET SPEED
S	ROAD SPEED LIMIT CONTROL TYPE	RSL CONTROL TYPE NORMAL
	PDLO ENGAGED VLS	POWER DIVIDER LOCK OUT (PDLO) ROAD SPEED LIMIT 40KMH (25MPH)
	DIFF LOCK SPEED LIMIT	DIFFERENTIAL LOCK ROAD SPEED LIMIT 24KMH (15MPH)
	MAXIMUM ENG SPEED AT 0 MPH	1950 MAXIMUM ENGINE SPEED AT 0 MPH
S	DETECTION SPEED SENSR TMRNG	DETECTION OF SPEED SENSOR TAMPERING, ENABLE
S	ENG TORQUE LIMIT,SPEED SENSOR	ENG TORQUE LIMITED TO 50%, IF SPEED SENSOR TAMPER DETECTED
S	DRIVER ID FUNCTION	DRIVER ID FUNCTION, DISABLED
S	DR PERFORMANCE PARAMETERS	WITHOUT DRIVER PERFORMANCE PARAMETERS
S	ENGINE OVERSPEED,ALL COND, LOG	ENGINE OVERSPEED, ALL CONDITIONS, TIME LOG IF ABOVE 2200 RPM
S	ENGINE OVERSPEED,FUELED, LOG	ENGINE OVERSPEED, FUELED, TIME LOG IF ABOVE 2100 RPM
S	VEHICLE OVERSPEED,ALL COND,LOG	VEHICLE OVERSPEED,ALL COND, TIME LOG IF ABOVE 75MPH (121KMH)
S	VEHICLE OVERSPEED, FUELED, LOG	VEHICLE OVERSPEED, FUELED, TIME LOG IF ABOVE 70MPH (113KMH)
S	ENGINE IDLE DELAY TO LOG	ENGINE IDLE DELAY TO START LOG, 2 MIN
S	PERIODIC TRIP LOG DAY OF MONTH	PERIODIC TRIP LOG, DAY 1 OF THE MONTH

PAINT		DESCRIPTION
S	PAINT DESIGN	SINGLE COLOR
S	PAINT TYPE	SOLID PAINT
S	PAINT COLOR - FIRST COLOR	MACK WHITE; P9188
S	PAINT COLOR - SECOND COLOR	NO SECOND TRUCK COLOR PROVIDED; NO COLOR
	PAINT COLOR - THIRD COLOR	NO THIRD TRUCK COLOR PROVIDED; NO COLOR
S	PAINT - CAB PAINT SYSTEM	PAINT - CAB, URETHANE CLEAR COAT
S	CAB COLOR	SAME AS FIRST COLOR - CAB
S	HOOD COLOR	SAME AS FIRST COLOR - HOOD

TECHNICAL SPECIFICATION *(cont.)*



PAINT		DESCRIPTION
S	ROOF FAIRING COLOR	WITHOUT ROOF FAIRING
S	CHASSIS RUNNING GEAR	MACK BLACK (URETHANE); P3036
S	BUMPER	W/O OPTIONAL BUMPER PAINT
S	FUEL TANK - ***NO INVENTED VARIANTS ALLOWED in the FUEL TANK PAINT FAMILY***	W/O OPTIONAL FUEL TANK PAINT
S	HUBS & DRUMS-FRONT	SAME AS CHASSIS RUNNING GEAR
S	HUBS & DRUMS-REAR	SAME AS CHASSIS RUNNING GEAR

CALCULATED CODES - KAX		DESCRIPTION
S	PROPCALC SELECTION	YES, THE ORDER MUST BE CALCULATED
	AUTO ROUTING & CLIPPING, CENTER	AUTOMATIC ROUTING & CLIPPING PLACEMENT, CENTER SECTION

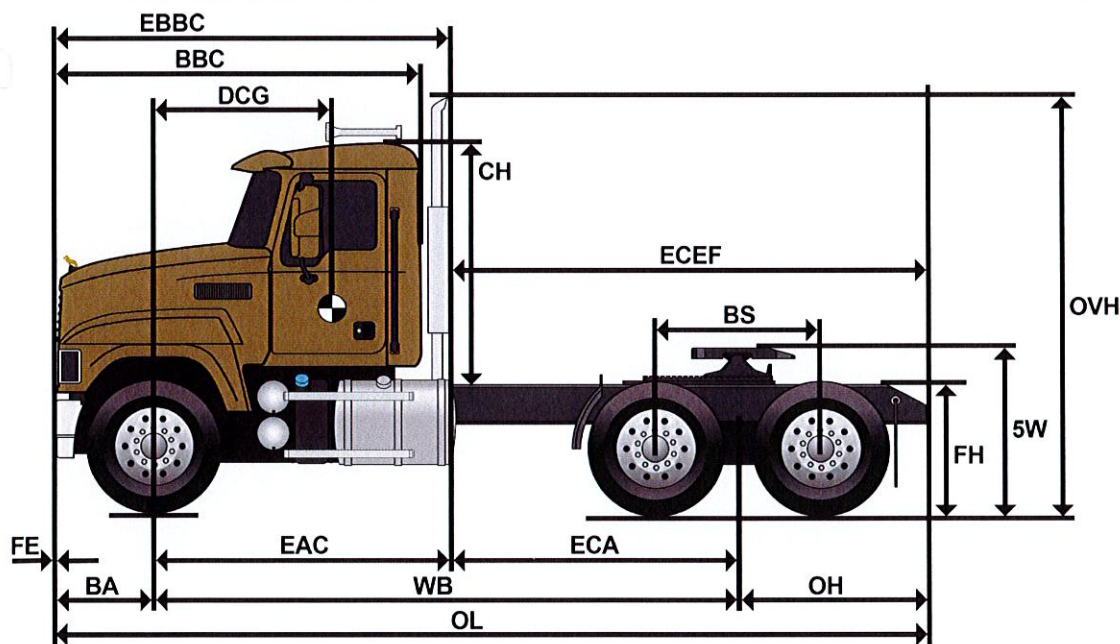
BASE WARRANTY & PURCHASED COVERAGES		DESCRIPTION
S	VEHICLE WARRANTY TYPE	NORMAL DUTY WARRANTY CLASSIFICATION
S	BASIC CHASSIS COVERAGE	NORMAL DUTY STANDARD BASE COVERAGE 12 MONTHS/100,000 MILES (160,934 KM)
	EMISSION - SURCHARGE	EPA (only) for Mack MP7 / MP8 Diesel
S	ENGINE WARRANTY	MACK MP7/MP8 BASE ENGINE COVERAGE 24 MONTHS / 250,000 MILES (402,000KM)
S	EMISSION COMPONENT COVERAGE	US and CANADA EQUIPPED VEHICLE EMISSION COMPONENTS COVERAGE 60 MONTHS/100,000 MILES (161,000 KM)
	TRANSMISSION WARRANTY	36/350K MI: EATON TRANSMISSION STANDARD NORMAL AND HEAVY DUTY COVERAGE
S	CARRIER & AXLE HOUSING WARRANTY	STANDARD VENDOR NORMAL / HEAVY DUTY COVERAGE 36 MONTHS/350,000 (563,00 KM)
S	AIR CONDITIONING WARRANTY	AIR CONDITIONING STANDARD COVERAGE (Sealed System Only) 12 MONTHS UNLIMITED MILEAGE
S	CHASSIS TOWING WARRANTY	STANDARD NORMAL / HEAVY DUTY CHASSIS TOWING 90 DAYS OR 5,000 MILES
S	ENGINE TOWING WARRANTY	STANDARD MACK ENGINE TOWING COVERAGE 24 MONTHS/250,000 MILES (402,000 KM)
S	GUARDDOG CONNECT BUNDLE	NO GUARDDOG CONNECT (ASIST & MACK ONECALL)

SERVICES		DESCRIPTION
S	MACK INTEGRATED UPTIME	MACK INTEGRATED UPTIME - 24 MONTHS
S	FLEET INTEGRATION	WITHOUT FLEET INTEGRATION
S	PARTNERED SERVICES	NO PARTNERED SERVICES PROVIDED

Prior to delivery each unit will be DOT inspected and include the appropriate documentation and decal. In addition they will have the required fire extinguisher and reflective safety triangles.

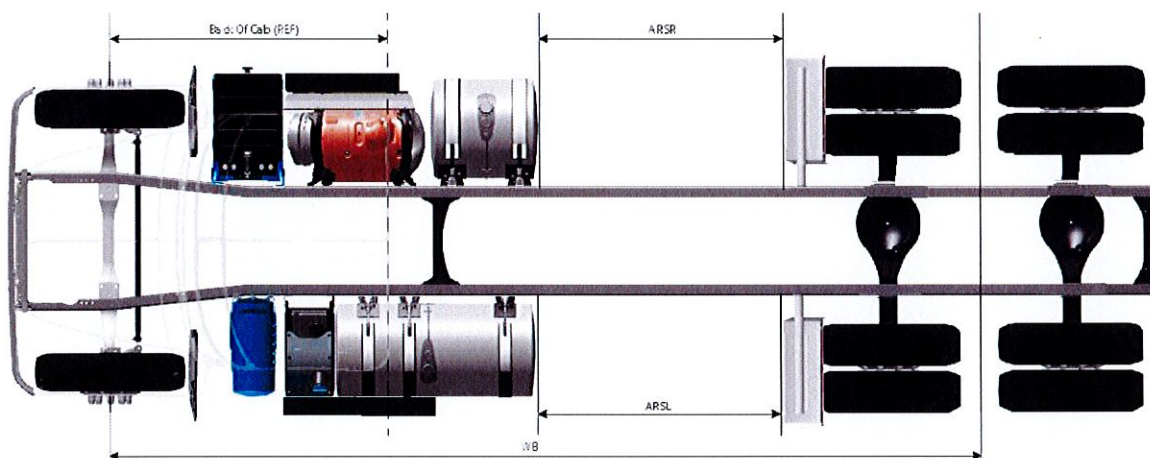
VEHICLE SPECIFICATION/CALCULATED PERFORMANCE SUMMARY

Description	Sales Code	Dwg Ref	Length	UOM
Front Frame Extension	N/A	FE	0.0	INCHES
Bumper to Front Axle	N/A	BA	29.8	INCHES
Eff. Bumper to Front Axle	N/A	N/A	29.8	INCHES
Wheelbase	N/A	WB	235.1	INCHES
Rear Overhang	N/A	OH	62.3	INCHES
Overall Length	N/A	OL	327.2	INCHES
Bumper to Back of Cab	N/A	BBC	117.3	INCHES
Eff. Bumper to Back of Cab	N/A	EBBC	128.8	INCHES
Eff. Cab to Rear Axle	N/A	ECA	136.1	INCHES
Eff. Front Axle to Back of Cab	N/A	EAC	99.0	INCHES
Eff. Cab to End of Frame	N/A	ECEF	198.4	INCHES
Unladen 5th Wheel Height	E5BAWX	5W	51.5	INCHES
Unladen Frame Height	N/A	FH	43.1	INCHES
Cab Height	N/A	CH	73.0	INCHES
Overall Height	N/A	OVH	141.1	INCHES
Driver CG	N/A	DCG	73.2	INCHES
60" AXLE SPACING (BOGIE WHEELBASE)	GWXJAX	BS	60.0	INCHES



VEHICLE SPECIFICATION/CALCULATED PERFORMANCE SUMMARY

Description	Sales Code	Dwg Ref	Left Value(in)	Right Value(in)
Wheelbase	N/A	WB	235.1	235.1
Available Rail Space Right	N/A	ARSR	N/A	49.5
Available Rail Space Left	N/A	ARSL	50.7	N/A
Eff. Front Axle to Back of Cab	N/A	REF	99.0	99.0
Front Axle To Fender	CDX30X	N/A	48.4	35.4
Claretech One Unit	DPF04F	N/A	0.0	48.0
Battery Box	393AA9	N/A	0.0	15.0
117 GALLON (445 L) 26" ALUMINUM ROUND / 50 GALLON (190 L) 26" ALUMINUM ROUND	288AC0 / 290AC2	N/A	58.0	25.2
Ad-Blue Tank	DF10N1	N/A	16.0	0.0
Quarter Fender	68XC1X	N/A	10.0	10.0
Drive Tire Radius	901AK1	N/A	22.0	22.0



Top View image is intended for illustration purposes only and is not presented to scale. Wheelbase, Axle Spacing and After frame are not shown as specified, but are a representation. Customer Adaptation (CA) options and relocated components are not represented in these images. Most CA options impact the variation of the image, thus an image may not populate. Calculations are approximate to a tolerance of ± 4 inches due to component mounting variation. Certain chassis component options are NOT represented in the Top View image, such as, but not exclusive to, Front Frame Extensions, Fuel Water Separators, Air Dryers, PTOs, Fifth Wheels, Chassis Fairings, Toolboxes, Trailer Connections. For further information on these items and their respective locations on your specification, please refer to the data sheets associated with those items in the configurator.

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TECHNICAL SPECIFICATION

mDrive Addendum



PINNACLE 64T DAYCAB MACK SPEC

APPLICATION PACKAGES	DESCRIPTION
CHASSIS CONFIGURATION PACKAGE	ONEBOX EATS, RIGHT FRONT BATTERY BOX, 18.4 GALLON (70L) DEF, DUAL 26" FUEL TANKS

CUSTOMER/VEHICLE INFO	DESCRIPTION
S CHASSIS (BASE MODEL)	PINNACLE 64T DAYCAB MACKSPEC
S ASSEMBLY PLANT	Made in Macungie, PA USA
CUSTOMER FLEET SIZE	REGIONAL FLEET 25 OR MORE VEHICLES IN OWN FLEET OF ANY VEHICLE BRAND
S ORDER TYPE REQUIREMENTS	RETAIL OR STOCK - CUSTOM SPECIFICATIONS
TYPE OF SERVICE	MUNICIPAL
S WARRANTY REGISTRATION LOCATION	USA - WARRANTY REGISTRATION LOCATION
EMISSION WARRANTY CERTIFICATION	EPA (only) for Mack MP7 / MP8 Diesel
INTENDED REGISTRATION LOCATION	ALABAMA
S INITIAL REGISTRATION LOCATION	USA REGISTRATION
BRAND ORNAMENT	BULLDOG BRAND ORNAMENT, CHROME
S LANGUAGE-PUBS/DECAL/SIGNS	ENGLISH
VEHICLE USE & BODY/TRAILER TYPE	VAN TRAILER
S TRANSPORT CYCLE	LOCAL DISTRIBUTION
S GROSS COMBINATION WEIGHT (CA in PC29 only)	80,000 LB (36 TONNES) GROSS COMBINATION WEIGHT
S BRAKE REGULATION	BRAKE REGULATION, STOPPING DISTANCE 76M (250FT)
TOPOGRAPHY	GRADES <3% GREATER THAN 98% OF DRIVING DISTANCE MAX GRADE 8%
S AMBIENT TEMP UPPER LIMIT (GTA)	AMBIENT TEMPERATURE HOT. WARMER THAN 104 F (40 C) ALLOWED UP TO 25 HOURS PER YEAR
S OPERATING TERRAIN GRADE CONDITIONS	ON HIGHWAY, STARTING GRADES<16%
S LOADING SURFACE FACTOR	CONCRETE LOADING AND / OR UNLOADING SURFACE
VEHICLE VOCATION	PICKUP & DELIVERY / SHORT HAUL SERVICE

ENGINE/TRANSMISSIONS	DESCRIPTION
ENGINE PACKAGE, COMBUSTION	MP8-505C+ (VC) MACK 505HP @ 1400-1700 RPM (PEAK) 2100 RPM (GOV) 1900 LB-FT, US'21
S GEAR SELECTION TUNING	BASIC, GEAR-SELECTION TUNING
S GHG APPLICATION, VEHICLE	GREEN HOUSE GAS HIGHWAY APPLICATION
TRANSMISSION	MACK TMD14AFO-HD mDRIVE HD 14 SP, ULTRA-LOW CREEPER/ MULTI-SPEED REVERSE (OVERDRIVE)
S GEARBOX 12TH GEAR LOCK-OUT	WITHOUT 12TH GEARBOX GEAR LOCK-OUT

EXHAUST/EMISSIONS	DESCRIPTION
NOX LIMITS	CARB LEGACY / EPA (200MG/HP/HR), 50 State Idle Compliance
S IDLE EMISSION LABEL LOCATION (CA in PC29 only)	IDLE EMISSION LABEL LOCATION, LOWER LH CORNER OF DRIVER DOOR
S DPF DIESEL PARTICULATE FILTER	CLEARTECH ONE BOX E.A.T.S. RH SIDE UNDER CAB US17 / US21
CHASSIS MOUNTED EMISSIONS FINISH	BRIGHT FINISH DEF COVER & PAINTED DPF COVER
S DIESEL EXHAUST FLUID TANK	18.4 GALLON (70 L) 26" LEFT SIDE FRAME MOUNTED
AD-BLUE TANK VENTILATION FILTER	DEF TANK VENTILATION FILTER
EXHAUST	DUAL VERTICAL OUTBOARD MOUNTED STRAIGHT EXHAUST STACK TURNED OUT END
S EXHAUST STACK HEIGHT	11' 6" FROM GROUND
EXHAUST SYSTEM MATERIAL FINISH	DUAL, BRIGHT FINISH HEAT SHIELDS, STACKS, ELBOWS

BROCHURES

MACKSPEC



PI64T

**BIGGER
• THAN IRON**

PI64T



STANDARD POWERTRAIN SPECIFICATIONS

ENGINE: MACK MP8-415C

Peak Horsepower - 415 HP at 1400-1700 RPM
Horsepower - 295 HP at 2000 Gov. RPM
Max. Torque - 1660 lb. ft. at 1050-1300 RPM
V-MAC IV - Total Vehicle Electronics
Air Compressor - Meritor/Wabco 318 (18.7 CFM)
Air Cleaner - 11" Single Element
Alternator - Delco 12V 130A (24SI)
Batteries - (3) Mack 12V 650/1950 CCA Threaded Stud Type
Coolant Protection: -34 degrees F (-37 C)
Mack Coolant Conditioner
ClearTech One DPF/SCR Emission System
Mack PowerLeash Engine Brake
Silicone Engine Hoses and Tubing
Poly-V Fan Belt with Automatic Tensioner
Fan Drive: Electronically Modulated Multi-Speed Viscous
Flywheel Housing - Aluminum (Lightweight)
Mack Fuel/Water Separator with Manual Drain Valve
Radiator - Aluminum Core
Starter - Delco 12V 39MT-MTX
Electronic Starter Interlock

TRANSMISSION: MACK mDRIVE TMD12AFO

12-Speed, Ratios: 11.73 Low - 0.78 High
Overdrive
Clutch - Single Plate 17" Organic Material
Transmission Bell Housing - Aluminum
Transmission Oil Cooler - mDRIVE Gear Box Mounted,
Water to Oil Cooler
Grade Gripper
Mackcellerator
Main Driveline - Meritor RPL25 Series with Permalube U-Joints

REAR AXLE: MERITOR MT-40-14X

40,000 Pound Capacity
Suspension - Maxlite 40EZ Air Suspension
40,000 Pound Rating
Tires - 295/75R22.5 (Low Profile)
Carrier - Malleable Housing
Wheels - Aluminum Disc, 22.5" x 8.25",
10-Hole, Hub Piloted
Hub Material - Aluminum Preset w/ Integrated
Spindle Nut
Brakes - Bendix 16.5" x 7"
Brake Drums - Cast Outboard Mounted
Premium Rear Wheel Seals
Slack Adjusters - Automatic
Spring Brake Chambers - 30/30 Double
Diaphragm Type, Mechanical
Spring Release
Shock Absorbers - (4) Mounted on Forward
and Rear Axles Each Side

FRONT AXLE: MACK FXL12

12,000 Pound Capacity
Suspension - Mack Taperleaf Springs,
12,000 Pound Rating, (2 Springs)
Tires - 295/75R22.5 (Low Profile)
Wheels - Aluminum Disc, 22.5" x 8.25",
10-Hole, Hub Piloted
Hub Material - Aluminum
Integrated Front Wheel Seals
Brakes - Bendix 15" x 5"
Brake Drums - Cast Outboard Mounted
Shock Absorbers - Double Acting Type
Slack Adjusters - Automatic
Steering - TAS65 TRW Integral Power Steering

PI64T



STANDARD CAB INTERIOR/EXTERIOR SPECIFICATIONS

CAB: CONVENTIONAL

Air Conditioning with Integral Heater
Cab Mounting - 4 Point, Air Bags
and Shocks at Rear
12 Volt and USB Outlets
Coat Hook
Co-Pilot Driver Display with
GuardDog Maintenance, Stalk Controls
Cup Holders
Dome Lamps - 2RH / 2LH
Galvanized Steel Visibility Doors
Door Trim - Padded Armrests and Map Pockets
Floor Mats - Polyurethane
Gauges - Air Pressure (Primary and Secondary)
Engine Coolant Temperature, Engine Oil
Pressure, Speedometer, Tachometer,
Fuel Level, DEF Level
Optional Gauges - Exhaust Pyrometer, Boost
Pressure, Transmission Oil Temperature,
Engine Oil Temperature, Air Application
Grab Handles, Exterior - RH & LH Behind Door
Hood - DCPD Material, Insulated
Horn - Electric, Single Tone
Identification and Clearance Lights (5)
Instrument Panel - Gunmetal Trim
Interior Trim: Standard - Steel Gray

Keys - (2) Keyed at Random
Key Type Starter Switch
Low Pressure Indicator Light and Buzzer
Exterior Mirrors - RH & LH Aerodynamic
Overhead Console with Storage Compartments
Parking Brake "On" Indicator Light
AM/FM Premium Stereo, CD Player, MP3
Weather Band, Bluetooth
CB Connections - 5 way Binding Posts
Driver Seat - High Back, 1 Chamber Lumbar,
Air Suspension
Rider Seat - High Back, Non-Suspension
Seat Belts - Lap and Shoulder
Steering Column - Tilt and Telescopic
Steering Wheel - Urethane Foam Grip,
Gunmetal Spokes
Rear Storage Pouch
Right Hand Door Peep Window
Sunvisors - Interior, RH & LH
Window Controls - Power
Windshield - Tinted, 2 Piece
Cab Glass - Tinted
Windshield Wipers - 2 Speed Electric Motor
with Intermittent Feature
Paint Color - Mack White (Cab, Hood, and
Fenders), Mack Black (Chassis and
Running Gear)

ADDITIONAL STANDARD SPECIFICATIONS

AIR/BRAKE

Dual Air Brake System
Air Dryer - 1200P w/ Coalescing Filter
Air Reservoirs - Steel
Electronic Stability Control
Parking Brake Control - 2 Valve System, Trailer
Supply and Tractor-Trailer Park
Electric Plug Holder (Includes Glad Hand Storage)
Hand Control Valve for Trailer Brakes
Hose Tender - Pogo Stick, Chassis Mounted
Manual Drain Valve - Lanyard Control on Supply
Tank
Trailer Connection Package - Semi
Trailer Air Hoses & Electric Cord - 12' Straight Type
Trailer Receptacle - (7) Wire Mounted on Back of Cab

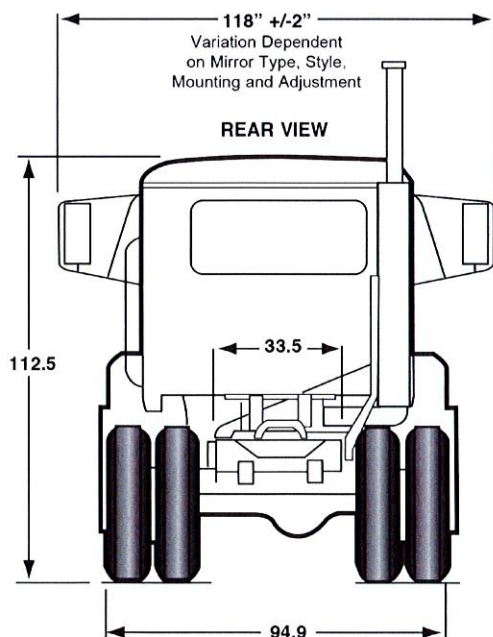
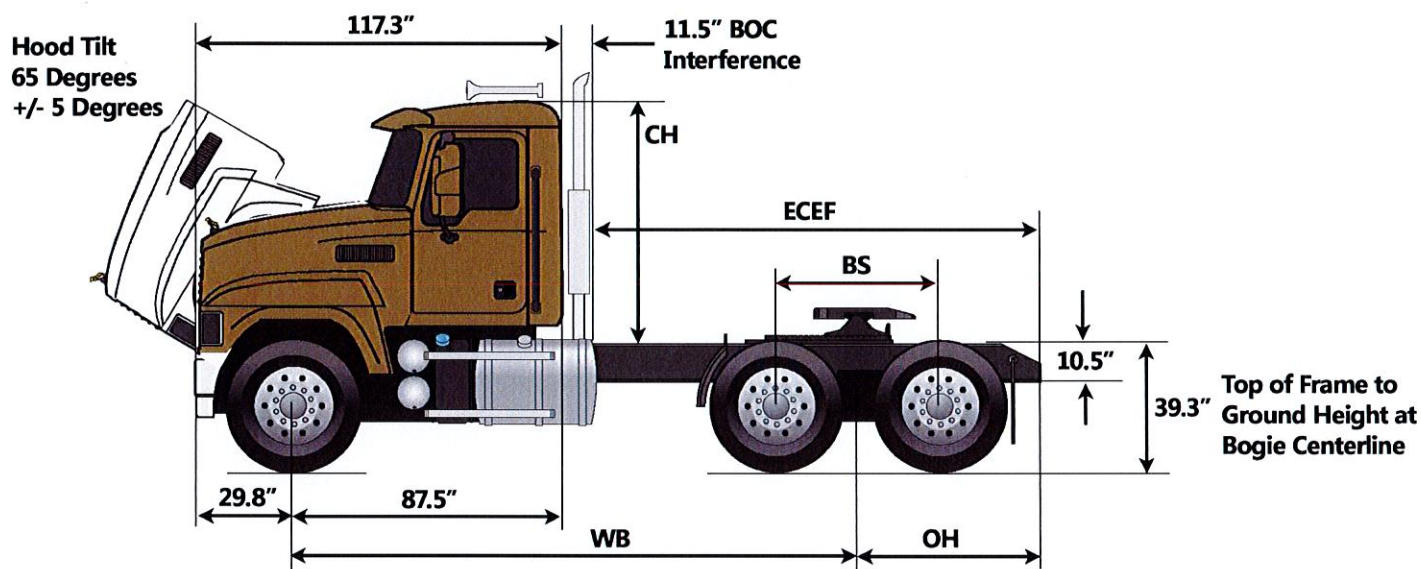
ELECTRICAL

12 Volt Electrical System
Battery Box - Steel with Molded Plastic Cover
Courtesy Light Switch - Headlamp and Clearance
GuardDog connect Services
Daytime Running Lights
Electric Circuit Protection Package
Waterproof Electrical Connections
Headlights - Flush Mounted LED Lights
Rear Lighting - (2) Combination Stop, Tail,
Directional, and Back-Up Lights
Triples Trailer Electrical Package
Solid State Turn Signal Flasher

PI64T



STANDARD CHASSIS DIMENSIONS



FRAME EQUIPMENT/FUEL TANKS

- Frame Rail w/out Liner – 10.47" x 3.54" x .24" Steel
- Section Modulus – 11.6 in³
- RBM (per rail) – 1,390,000 lb. in.
- Front Bumper – Stainless Steel Clad Aluminum Flush Mounted
- Bumper to Back of Cab (BBC) – 117"
- Crossmembers – Steel/Rear Crossmembers – Boxed and Tapered
- Fifth Wheel – Air Slide LH Release, Bolt to Outboard Mtg. Angles
- Tapered and Flanged Rail Ends – 28°
- Front Tow Device – (2) Clevis
- Fuel Tanks – 93 Gallon LH & RH, 26" dia. Aluminum
- Fuel Lines – Dual Draw & Return, Material – Nylon Tube
- Diesel Exhaust Fluid (DEF) Tank - 18.4 Gallon, 26" Diameter Frame Mounted on Left Side with Painted Cover

STANDARD WHEELBASE/LOAD PLATFORM

For standard wheelbase and load platform information refer to your current version of MSS

PI64T



AVAILABLE DRIVELINE COMPONENTS

MP8 ENGINES

MODEL	HORSEPOWER / TORQUE
MP8-415C	415 HP [309kW] @ 1400-1700 RPM 1660 lb. ft. [2251 Nm] @ 1050-1300 RPM
MP8-445C	445 HP [332kW] @ 1300-1800 RPM 1815 lb. ft. [2460 nM] @ 1150-1300 RPM
MP8-505C	505 HP [377 kW] @ 1500-1700 RPM 1860 lb. ft. [2508nM] @ 1100-1400 RPM
MP8-415E	415 HP [310kW] @1400-1700 RPM 1660 lb. ft. [2251 nM] @ 1000-1300 RPM
MP8-445E	455 HP [339kW] @ 1300-1700 RPM 1815 lb. ft. [2460 nM] @ 1100-1300 RPM
MP8-505E	505 HP [377kW] @ 1400-1700 RPM 1860 lb. ft. [2508nM] @ 1100-1400 RPM
MP8-505A	505 HP [377 kW] @ 1500-1700 RPM 1860 lb. ft. [2508nM] @ 1100-1400 RPM
MP8-415SE - TC	415 HP [310 kW] @ 1300-1700 RPM 1760 lb. ft. [2386] @ 900-1300 RPM
MP8-445SE - TC	445 HP [332 Kw] @1400-1700 RPM 1860 lb. ft. [2432 kW] @ 900-1300 RPM

MACK TRANSMISSIONS

MODEL	SPEEDS	RATIOS	LOW/HIGH
T309	9	11.40 / 0.71	
T310	10	13.81 / 0.73	
T310M	10	17.35 / 0.73	
T313	13	13.44 / 0.74	
T31321	13	13.44 / 0.71	
T313LR	13	16.42 / 0.71	
T313LR21	13	16.42 / 0.71	
T318	18	13.44 / 0.71	
T318LR	18	16.42 / 0.71	
T31821	18	13.44 / 0.71	
T318LR21	18	16.42 / 0.71	

MACK *m* DRIVE TRANSMISSIONS

MODEL	SPEEDS	F. RATIOS	R. RATIOS
TmD12AFD	12	14.94 / 1.00	17.49 / 13.73
TmD12AFO	12	11.73 / 0.785	13.73 / 10.78
TmD12AFD-HD	12	14.94 / 1.00	17.49 / 13.73
TmD12AFO-HD	12	11.73 / 0.785	13.73 / 10.78
TmD13AFD-HD	13	19.34 / 1.00	37.49 / 8.62
TmD13AFO-HD	13	17.54 / 0.785	20.53 / 10.78
TmD14AFO-HD	14	32.04 / 0.785	37.49 / 8.62

EATON FULLER TRANSMISSIONS

MODEL	SPEEDS	RATIOS	LOW/HIGH
FA14810B	10	15.42 / 1.00	
FA15810B	10	15.42 / 1.00	
FAM15810B	10	15.42 / 1.00	
FAO14810C	10	12.80 / 0.73	
FAO15810C	10	12.80 / 0.73	
FAO16810C	10	12.80 / 0.73	
FAOM15810C	10	12.80 / 0.73	
FAOM16810C	10	12.80 / 0.73	
FR15210B	10	14.80 / 1.00	
FRO14210C	10	12.69 / 0.74	
FRO15210C	10	12.69 / 0.74	
FRO16210C	10	12.69 / 0.74	
FRO17210C	10	12.94 / 0.74	
FRO18210C	10	12.94 / 0.74	
FRW15210B	10	16.21 / 1.00	
RTO14908LL	10	14.56 / 0.74	
RTO16908LL	10	14.56 / 0.74	
RTLO16913A	13	12.31 / 0.73	
RTLO18913A	13	12.31 / 0.73	
RTO16915	15	13.31 / 0.79	
RTLO16918B	18	14.40 / 0.73	
RTLO18918B	18	14.40 / 0.73	

ALLISON TRANSMISSIONS

MODEL	SPEEDS	RATIOS	LOW/HIGH
3000-RDS	5	3.49 / 0.75	
3000-RDS	6	3.49 / 0.65	
4000-RDS	6	3.51 / 0.64	
4500 RDS	5	4.70 / .076	
4500 RDS	6	4.70 / .067	

AVAILABLE DRIVELINE COMPONENTS CONTINUED

FRONT AXLES		
MODEL	MAKE	CAPACITY
FXL12	MACK	12,000 lb. [5443 kg.]
E1252IR	DANA SPICER	
MFS131	MERITOR	
STEERTEK	HENDRICKSON	
FXL12.5	MACK	12,500 lb. [5681 kg.]
E1252IR	DANA SPICER	
MFS131	MERITOR	
STEERTEK	HENDRICKSON	
FXL13.2	MACK	13,200 lb. [6000 kg.]
E1322IL	DANA SPICER	
MFS131	MERITOR	
STEERTEK	HENDRICKSON	
FXL14.6	MACK	14,600 lb. [6486 kg.]
MFS141	MERITOR	
STEERTEK	HENDRICKSON	

REAR AXLES - TANDEM		
MODEL	MAKE	CAPACITY
S38R	MACK	38,000 lb. [17,237 kg.]
S40	MACK	40,000 lb. [18,100 kg.]
S402R	MACK	
MT-40-14X4C	MERITOR	
MT-40-14X4D	MERITOR	
RT40-145A	MERITOR	
DS405	DANA SPICER	
D40-155	DANA SPICER	
D40-156	DANA SPICER	
D40-155H	DANA SPICER	
D40-156H	DANA SPICER	
S440	MACK	44,000 lb. [19,958 kg.]
S460	MACK	46,000 lb. [20,886 kg.]
S462	MACK	
S462R	MACK	
RT46-160	MERITOR	
RT46-164EH	MERITOR	
D46-170	DANA SPICER	

Product Information

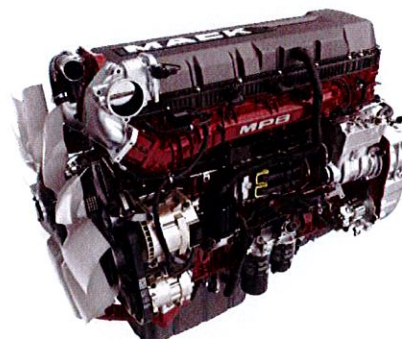


1001843 MP8-505C+, MAXICRUISE PLUS DIESEL ENGINE – US '21 w/ VARIABLE-SPEED COOLING

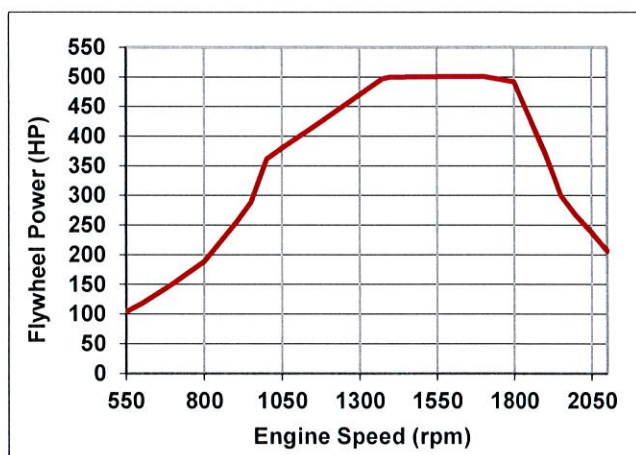
Updated: August 5, 2021

Performance summary

Peak HP [kW]	505 [377] @ 1400-1700 RPM
HP [kW] at governed RPM	206 [154] @ 2100 RPM
Peak torque lb. ft. [Nm],	1900 [2576] @ 1000-1375 RPM
Clutch engagement lb. ft. [Nm]	860 [1165] @ 800 RPM
Operating range	550 – 2100 RPM



Torque and Power Curves:



Gearing Recommendations / Recommended Cruise RPM

Proper gearing is essential to achieve optimum vehicle performance and economy. Vehicle specifications including engine, transmission, axle ratio, and tires should be selected to meet minimum startability and gradeability recommendations while balancing performance and economy with customer requirements. Dealers should refer to the **PAWS Performance Predictor** to gauge compliance to vehicle-specific minimum recommendations.

Recommended Cruise RPM: 1100 – 1300

Product Information



**1001843 MP8-505C+, MAXICRUISE PLUS DIESEL ENGINE – US '21
w/ VARIABLE-SPEED COOLING**

Updated: August 5, 2021

Features and benefits

18:1 CR wave piston, 220 bar peak cylinder pressure	Our patented Wave piston delivers improved combustion and lower friction, resulting in cleaner emissions and better fuel economy. Six steel waves forged into the piston crown optimize fuel injection for increased combustion efficiency.
Variable speed water pump	A two-speed coolant pump reduces parasitic loss by delivering the right amount of cooling capacity when maximum cooling isn't required, for an extra 0.5 to 0.6 percent in fuel economy.
Electronic common rail fuel injection	The simplicity of Mack's electronic common fuel rail system eliminates external high-pressure lines as can be common with "one pump" common rail systems. This direct injection system delivers ultra-precise control over fuel injection pressure, timing and volume. The result is more power and efficiency, with less engine noise.
Intake throttle	MP Series engines are equipped with intake throttles that improve heat management, helping to increase the exhaust gas temperature at idle and low load, increasing the efficiency of the exhaust aftertreatment.
Dual-butterfly EGR valve	The MP8 Dual-butterfly EGR Valve reduces fuel consumption through higher EGR flow rates compared to other systems that incorporate single-poppet style EGR valves.
CLEARTECH™ ONE aftertreatment	Mack's re-engineered exhaust aftertreatment system is designed for MP series engines and features a sophisticated new design that delivers near-zero emissions and low maintenance in a lighter, more compact unit

Product Information



1001843 MP8-505C+, MAXICRUISE PLUS DIESEL ENGINE – US '21 w/ VARIABLE-SPEED COOLING

Updated: August 5, 2021

Base engine specifications: All engine specifications are listed for the base engine model and do not include Specifications found in optional engine equipment.

Number of cylinders & firing order	6, In-Line: 1 – 5 – 3 – 6 – 2 – 4
Bore and stroke, inches [mm]	5.16 X 6.22 [131 X 158]
Displacement, cubic inches [L]	780 [13]
Compression ratio	18:1
Torque rise	32.5%
Idle speeds:	
Low	Adjustable, 650 RPM
High	2100 RPM
Engine brake retarding power	475 HP [355 kW] @ 2250 RPM
Weight, dry [approximate] lbs. [kg]	2711 [1230]
Fuel filter	Spin-on, disposable
Fuel system	High pressure F2 common rail
Fuel supply pump	Eccentric-style pump (no lifters or tappets)
Lubrication system:	
Type	Full pressure, wet sump
Oil filters	2 Spin-on full flow, disposable
Oil cooler	Stainless steel plate
Total oil capacity, includes filters	37 quarts [35 liters]
Drain plug	Magnetic
Turbocharger	Variable geometry turbocharger with journal bearings

Product Information



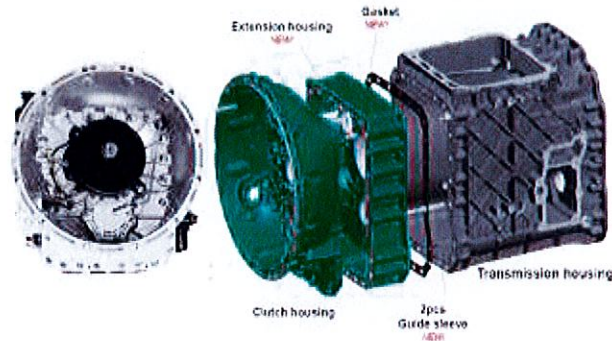
1361511 TMDMACK 14AFO-HD mDRIVE HD 14 SP, ULTRA-LOW CREEPER/ MULTI-SPEED REVERSE (OVERDRIVE) (136176)

Updated: September 1, 2017

Mack® mDRIVE™ HD F Series Transmission

The mDRIVE HD heavy-duty automated manual transmission comes standard on Mack® Granite® trucks to help tackle whatever challenges you face on the job. This 13-speed, two-pedal transmission offers up to 1,920 lb.-ft. of torque, horsepower ratings from 325 to 505 HP and is designed to integrate seamlessly with Mack MP7® and MP8® engines.

Because mDRIVE HD is in constant communication with your engine, it's continuously monitoring changes in grades, vehicle speed, acceleration, torque demand, weight and other factors, so there's no compromising on performance.



mDRIVE HD F Series offers the following features:

Grade Gripper

There's no awkward and dangerous roll-back when stopping on a grade. Grade Gripper keeps your position for up to three seconds after the brake pedal is released.

Rock Free

Don't let troublesome terrain bog you down. When your truck gets stuck, mDRIVE HD rocks the vehicle back and forth to break you free.

(Optional with Mack Fleet shifter package)

Power Launch

When rocking won't release your truck from sand and loose soil, mDRIVE HD responds with more power than you thought possible. It allows you to raise the engine RPM and torque prior to engaging drive mode to free your vehicle.

(Optional with Mack Fleet shifter package)

PTO Options

The mDRIVE HD is available with up to six different combinations of rear transmission-mounted PTO options and a selection of factory-installed piston and gear-driven hydraulic pump options.

COMPLETE INTEGRATION

As part of Mack's legendary integrated powertrain, mDRIVE HD works seamlessly with Mack engines and axles for improved efficiency, increased uptime and lower cost. Because when all the pieces perform together, everything else falls into place.

LIGHTER THAN THE COMPETITION

Even though mDRIVE HD is built strong, it won't weigh you down. It's hundreds of pounds less than competitors, so you can ditch the dead weight and increase your payload.

PowerLeash™ Engine Brake

Get maximum performance from your engine brake. By setting your downhill speed, the engine, engine brake and transmission work together to allow a faster controlled descent speed in a higher gear without overspeeding the engine.

Enhanced Construction Shift

Heavy-duty construction jobs demand more aggressive shifting. Enhanced Construction Shift maximizes gradeability and improves starting and shifting on rough terrain.

(Optional with Mack Fleet shifter package)

Heavy Haul Shift

Meet Mack's most assertive shift strategy yet. Designed for the trucks that shoulder your largest loads, Heavy Haul Shift offers even more performance-oriented shift points and less skip shifting. Recommended for loads over 160,000 GCW. *(Requires Mack Premium shifter package)*

INCREASED PRODUCTIVITY

The mDRIVE HD is automated, so it's easier to work than traditional manual transmissions. Because drivers don't have to worry about shifting gears, they're more rested and ready to finish the job with increased focus and productivity.

ONE-STOP SERVICE

Because mDRIVE HD is a Mack transmission, it's serviced in Mack's industry-leading, coast-to-coast dealer network and supported by our comprehensive Uptime Services. Forget the additional time or hassle spent dealing with third-party repairs.

Product Information



1361511 TMDMACK 14AFO-HD mDRIVE HD 14 SP, ULTRA-LOW CREEPER/ MULTI-SPEED REVERSE (OVERDRIVE) (136176)

Updated: September 1, 2017

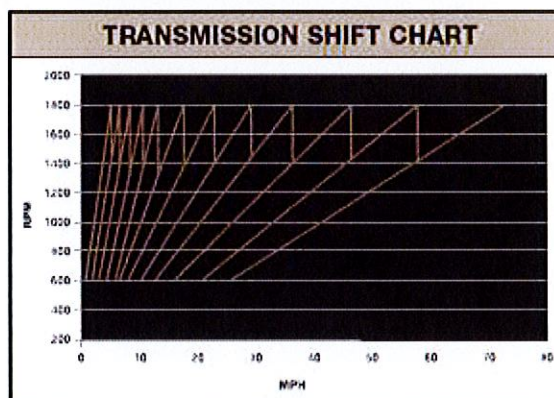
OVERDRIVE SHIFTER FEATURES		
FEATURES	FLEET	PREMIUM
AUTO NEUTRAL	STANDARD	STANDARD
GRADE GRIPPER	STANDARD	STANDARD
GEAR SELECTION ADJUSTMENT	OPTIONAL	STANDARD
POWERLEASH ENGINE BRAKE	STANDARD	STANDARD
ENHANCED CONSTRUCTION SHIFT **	OPTIONAL	STANDARD
EASY SHIFT **	OPTIONAL	OPTIONAL
HEAVY HAUL SHIFT **	OPTIONAL	STANDARD
CRUISE 'N BRAKE	OPTIONAL	STANDARD
LOW SPEED MODULATION CONTROL	STANDARD	STANDARD
MACKCELLERATOR	OPTIONAL	STANDARD
ROCK FREE	OPTIONAL	STANDARD
POWER LAUNCH	OPTIONAL	STANDARD

** These options are selectable under the M05- PID condition.

OVERDRIVE SPECIFICATIONS	
TYPE	14 SPEED AUTOMATIC MANUAL TRANSMISSION
LENGTH	40" [1016 MM]
WEIGHT (DRY)	687 LB [312 KG]
OIL CAPACITY	19.5 QUARTS [18 L]
TORQUE RATING	2360 LB. FT. [3200 N•m]
NUMBER OF SPEEDS - FORWARD	14
NUMBER OF SPEEDS - REVERSE	4
CASE, BELL HOUSING MATERIAL	ONE PIECE HEAT TREATED ALUMINUM
CASE, BELL HOUSING TYPE	SAE #1
TYPE OF GEARS	HELICAL
CONTROL	D PANEL DASH MOUNTED SHIFTER
SHIFTER INDICATORS	R-REVERSE / N-NEUTRAL / D-DRIVE / M-MANUAL
LUBRICATION	SPLASH & PRESSURE

For Information Concerning Power Take-Offs Consult Power Take-Off Sheets

OVERDRIVE GEAR RATIOS		
FORWARD GEAR	RATIO	% STEP
Creeper(1)	32.04	
Creeper(2)	19.38	
1st	11.73	
2nd	9.21	27
3rd	7.09	30
4th	5.57	27
5th	4.35	28
6th	3.41	28
7th	2.70	26
8th	2.12	27
9th	1.63	30
10th	1.28	27
11th	1.00	28
12th	0.76	27
REVERSE GEAR	RATIO	% STEP
R0	37.49	
R1	13.73	
R2	10.76	
R3	8.52	



Product Information



1361511 TMDMACK 14AFO-HD mDRIVE HD 14 SP, ULTRA-LOW CREEPER/ MULTI-SPEED REVERSE (OVERDRIVE) (136176)

Updated: September 1, 2017

Feature Description

No change from current options

Gear Selection Adjustment

The driver can manually select gears using the up / down buttons located on the Premium shifter. The Driver Display will indicate how many up / down gears are available by the means of up / down arrows.

Idle Governor Driving Mode

This feature is included in every software feature package and is useful in the lower gear range (1-6), for example when driving slowly in congested areas. The Idle Driving mode is engaged by the driver removing their foot from the accelerator and allowing the vehicle to idle along. The transmission automatically selects the gear which best suits the speed. When the Basic shifter is utilized, slightly pressing the accelerator or brake pedal will change engine speed to facilitate an upshift or downshift. Although the engine load may vary, the Idle Governor will adjust the torque to maintain idle speed and therefore achieve constant vehicle speed. The feature also works in Reverse and is quite helpful when backing up a trailer.

Gear Selection of Start Gear

The driver can in the "Manual mode" select start gear in the range from 1-3.

For Tractor models, in the "Drive mode" the transmission will select the start gear based on the load, the grade and engine size. Typically the start gear is 1 or 2 with a trailer connected and 4 when bob-tailing. However, the driver can adjust the selected gear by up to two gears above the calculated as long as it does not exceed "Highest available start gear". The highest available start gear is a customer programmable parameter in the range from 1-6 with a default value of 6. For Truck configurations the starting gear will be 1.

Performance Mode

A button on the Premium gear lever lets the driver select Performance operating mode.

- Economy, the transmission will select shift points and command engine parameters maximizing fuel economy.
- Performance mode selects shift points and engine parameters maximizing to be driven in high grades and other rough conditions. Improved ability to rock free.

There are three customer programmable settings for the Performance mode:

1. Performance mode available. When you press the button, the transmission goes to PERF mode, and stays there until you turn-off the truck, or press the button again. Recommended setting for off-road vehicles.
2. Performance mode available. Once enabled the mDrive monitors the engine utilization and automatically returns to Economy if the power demand for a specified time window drops to a level that can be handled by the Economy mode. In other words it minimizes the time in Performance mode, which improves Fuel Economy.
3. Performance mode disabled. Best for fuel economy.

Auto Neutral when Parking Brake applied

In situations where the mDrive is still in gear after the parking brake has been applied, the mDrive will go into Neutral after four minutes in order to protect the release bearing from excessive temperature and wear. If the driver presses the accelerator pedal, the transmission engages the gear was selected before.

Auto Neutral at Key-off if Gear engaged

In order avoid "torque lock-up" of the driveline when shutting off the engine with a gear engaged, mDrive will automatically go into Neutral during key-off.

Basic PTO functions

Possibility to engage PTO in vehicle speeds up to 6Mph (speed limit depends on the rear axle ratio)

Pre-defined splitter positions: SW parameter defines splitter to engage when use of transmission PTO.

Product Information



1361511 TMDMACK 14AFO-HD mDRIVE HD 14 SP, ULTRA-LOW CREEPER/ MULTI-SPEED REVERSE (OVERDRIVE) (136176)

Updated: September 1, 2017

"P" Additional Features "Rock Free"

In situations where wheel spin occurs and a vehicle becomes stuck, the mDrive transmission has the ability to rock the vehicle back and forth to maneuver out of the stuck condition. A combination of carefully pressing and releasing the accelerator, to ease the vehicle forward or backwards, will produce the rocking motion to elongate the wheel tracks which have caused the vehicle to become stuck.

Engage as follows:

- Engage differential locks
- Turn off traction control
- Select Performance mode of the mDrive
- Press the M button for Manual selection, and select 1st gear, or the 1st reverse gear
- Carefully press accelerator pedal up and down with a smooth pumping action



"P" Additional Features "Power Launch"

If the vehicle becomes "really stuck" in sand or very soft soil and are unable to get it moving again by trying to rock it free. That's where the Power Launch feature comes in. With the Performance software package, the mDrive has the ability to use full engine torque to get the vehicle moving once again.

Engage as follows:

- Engage differential locks
- Select Performance mode of the mDrive
- Press the M or D button for Manual/Drive, use 1st gear, or the 1st reverse gear
- Push and hold the minus (-) button on the gear selector
- Completely depress the accelerator – the engine will rise to 1300 rpm
- Release the minus (-) button and the clutch is engaged, launching the vehicle free



Grade Gripper is a safe, convenient way to hold a vehicle on-grade (road inclines and declines) without risk of roll-back or clutch burn-out.

Grade Gripper 'grips' both the tractor and the trailer brakes.

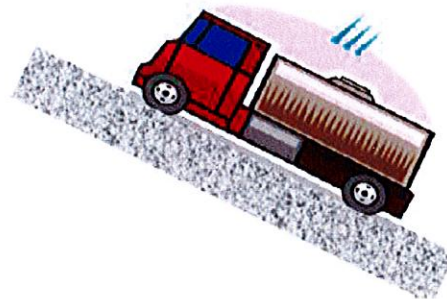
When the brake pedal is released, Grade Gripper maintains braking until the throttle pedal is applied, or until a 3 second timer expires.

Grade Gripper only applies on grades at 0 mph, with the service brakes applied.

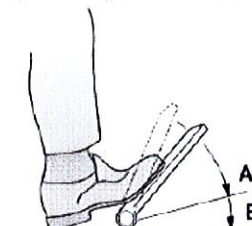
A dash switch can be used to disable Grade Gripper, whenever needed. If disabled, the switch lamp flashes and a Co-Pilot message informs the driver.



Grade Gripper Disabled



The **MackCellerator** is a 2-position throttle pedal. The first position (A) provides 100% throttle. If the driver presses further, the pedal passes a detent to full travel (B). The mDRIVE will then automatically downshift (assuming there is sufficient engine RPM range).



A = 100% throttle
B = Downshift

Think of MackCellerator as an easy way to engage passing gear (down-shift), without the driver needing to take his/her eyes off the road.

Product Information



1361511 TMDMACK 14AFO-HD mDRIVE HD 14 SP, ULTRA-LOW
CREEPER/ MULTI-SPEED REVERSE (OVERDRIVE)
(136176)

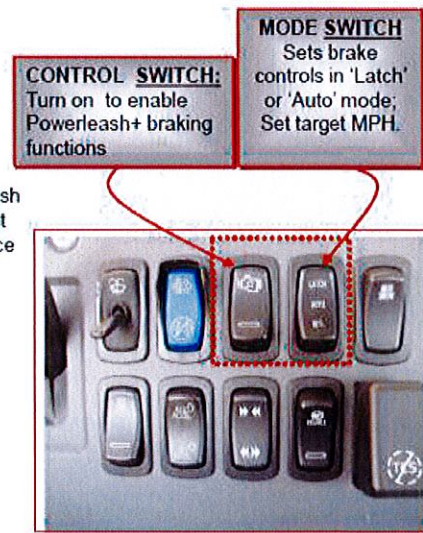
Updated: September 1, 2017

PowerLeash+ engine brake controls include the following features:

'Cruise'n Brake' automatically engages PowerLeash+ at 3 mph above the cruise control target set speed, then auto disengages it prior to resuming cruise (0.5 mph above). Note: 'Cruise'n Brake' only functions in Auto mode.

'Latch' mode automatically engages the engine brake whenever the throttle pedal is released and the PowerLeash+ control switch is in the 'ON' position.

'Auto' mode keeps the engine brake off unless a target downhill braking set speed is specified, using the 'SET-' button. PowerLeash+ will automatically and progressively (0-100%) attempt to maintain the set speed. The control switch must be in the ON position. Applying the service brakes will not automatically activate PowerLeash+.



Product Information



1362176 Transmission, Eaton RTLO-18918B

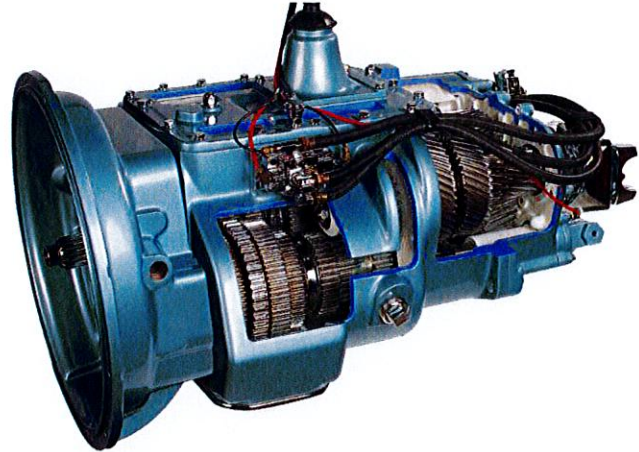
Related: Transmission (136), Driveline (195), Rear Axle (268)

Updated: July 2, 2020

With the Eaton RT-18, drivers will experience versatility and low shift effort in a premium 18-speed transmission.

The innovative, patented design features a simple mainshaft, which is not splined to the auxiliary gear. This unique design eliminates the added mass, drag and inertia of the entire auxiliary section.

During upshifts, where both the lever and splitter button are moved together, the low-inertia mainshaft is quickly brought to synchronous, resulting in fast, easy shifts.



- Unbeatable versatility with 19.7 to 1 overall reduction and 14.40 low gear.
- Economical performance with 0.73 and 0.86 overdrives for efficient cruise RPMs.
- Exclusive output seal design improves seal life and eliminates potential for seal damage during yoke removal.
- Faster, smoother range and splitter shifts and improved cold weather performance due to design improvements.
- On selected models an optimized lubrication system provides increased cooling and lubrication for more difficult, harder working applications.
- Quieter operation and increased durability due to helical gears in auxiliary section.
- Improved lubrication with standard internal oil pump and oil lines for directed lubrication.
- Smoother, faster, easier shifting due to patented low-inertia technology.

Applications at a Glance

Linehaul	Heavy Haul	Severe Duty						Constr.	P&D
		Logging	Mining	Oil Field	Refuse	Agriculture	Off-Hwy		
✓	✓	✓	✓	✓	✓	✓	✓	✓	No

Product Information



1362176 Transmission, Eaton RTLO-18918B

Related: Transmission (136), Driveline (195), Rear Axle (268)

Updated: July 2, 2020

Clutch Housing Type, Material and Weight

SAE No. 1			SAE No. 2		
Material	Aluminum [kg]	Iron [kg]	Material	Aluminum [kg]	Iron [kg]
Standard	23 lbs. [10]	76 lbs. [34]	Standard	21 lbs. [10]	68 lbs. [31]
Nodal	36 lbs. [16]	92 lbs. [42]	Nodal	N/A	88 lbs. [40]

Quick Specs

Lbs.-Ft. Max TQ [Nm]	Integral Oil Pump	Thru- Shaft PTO	Integral Oil Cooler	External Oil- to-Water Cooler	External Oil Filter	Oil Capacity Pints [liters]	Length Inches [mm]	Weight (*) Lbs. [kg]	PTO Speed (% of engine)	Combined PTO Torque (Lbs.-ft.)
1850 [2509]	Yes	No	No	Yes	Optional	28 [13]	33.1 [841]	716 [325]	79%	500

(*) Less clutch housing, lubricant and end yoke

PTO Openings:

- Two SAE standard openings.
- **Right side:** Regular duty, 6-bolt, short length.
- **Bottom:** Heavy duty, 8-bolt.

PTO Drive Gears:

- **Right side:** A 45-tooth, 6/8 pitch gear.
- **Left side:** A 47-tooth, 6/8 pitch gear.
- Both gears turn at 0.79 engine speed.

Overall Ratio	Reverse Gear Ratios			
19.72	1	2	3	4
	3.43	4.03	12.85	15.06

LL	L	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
14.4	12.29	8.51	7.26	6.05	5.16	4.38	3.74	3.2	2.73	2.28	1.94	1.62	1.38	1.17	1	0.86	0.73
17%	44%	17%	20%	17%	18%	17%	17%	17%	20%	17%	20%	17%	18%	17%	17%	17%	Final

Product Information

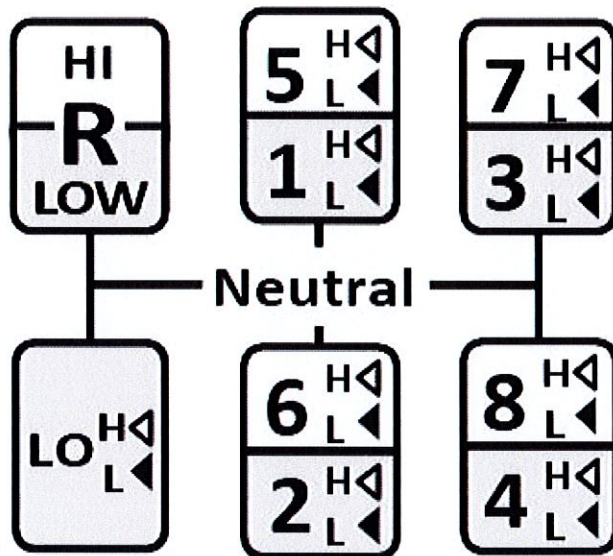


1362176 **Transmission, Eaton RTLO-18918B**

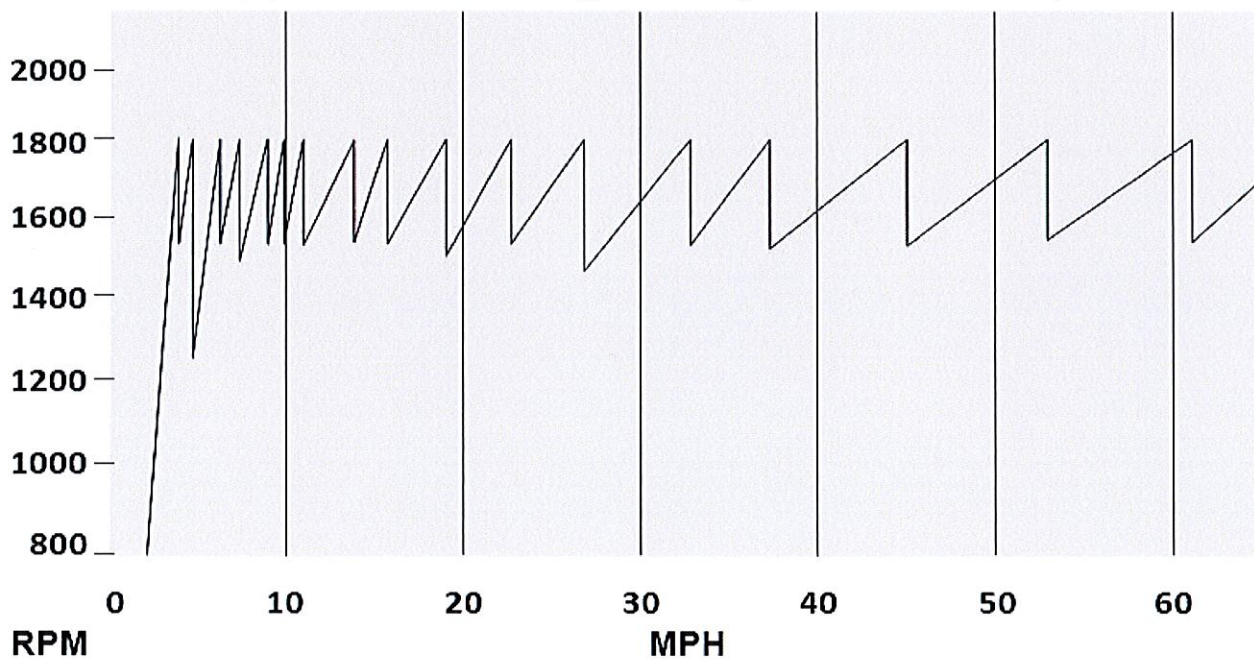
Related: Transmission (136), Driveline (195), Rear Axle (268)

Updated: July 2, 2020

Shift Pattern



Performance Chart (based on 1800 RPM engine cruising at 1630 RPM / 65 MPH)





Product Information

1952303 SPICER SPL350 XL LITE - XLARGE (PROPS-XL) GREASABLE
1952313 SPICER SPL350 XL LITE - XLARGE (PROPS-XL) MAINTENANCE FREE
Updated: January 28, 2023

The SPL® Lite product is built with fewer parts than competitive offerings, reducing overall maintenance costs. The Lite Series of driveshafts also uses the same end yokes and universal joints as their SPL® counterparts, reducing inventory costs and complexity.

With torque ratings up to 30,000 Nm (22,127 lbs. ft.), this durable series of driveline systems is up to 35 pounds (15.9 kg) lighter than competitive products and provides the best balance specification in the industry.

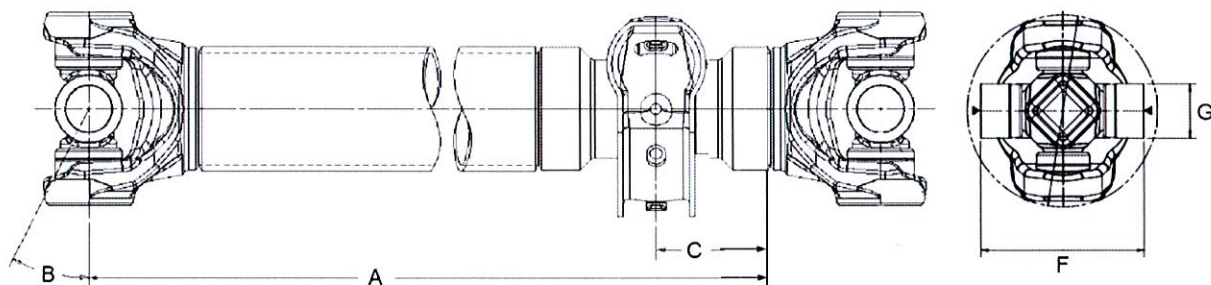
- 40 percent improvement in calculated bearing capacity for longer life
- Efficient design delivers 70 percent higher power density
- Exclusive sealing package for extended life

Sales Code	Service Level
1952303	Requires Maintenance
1952313	Maintenance Free

Torque Rating		Wall Thickness	
(lbs. ft.)	Nm		
18,439	25,000	5.2 mm	0.205 in

Outboard Slip Coupling Shaft Assembly with Center Bearing

Minimum Length Centerline of Cross to End of Shaft "A"		Maximum Angle "B"	Tube Size (Outside Diameter)		Centerline of Center Bearing to End of Sleeve "C"		U-Joint Span "F"		Bearing Cup Diameter "G"	
mm	in		mm	in	mm	in	mm	in	mm	in
366.5	14.4	25°	118.4 x 5.2	4.66 x 0.205	76.5	3.01	172	6.77	65	2.56





Product Information

2042302

SPICER SPL250 XL LITE – GREASABLE

2042304

SPICER SPL250 XL LITE – MAINTENANCE FREE

Updated:

April 18, 2023

Handling heavy loads over the long haul has never been easier or more efficient, thanks to Dana's Spicer Life® Series driveshafts. Now enhanced to offer even greater torque, durability, and savings, SPL® products offer 70 percent more power density than their nearest competitor and a 40 percent increase in bearing life. No other U-joint meets the needs of high-efficiency truck applications better than the SPL U-joint.

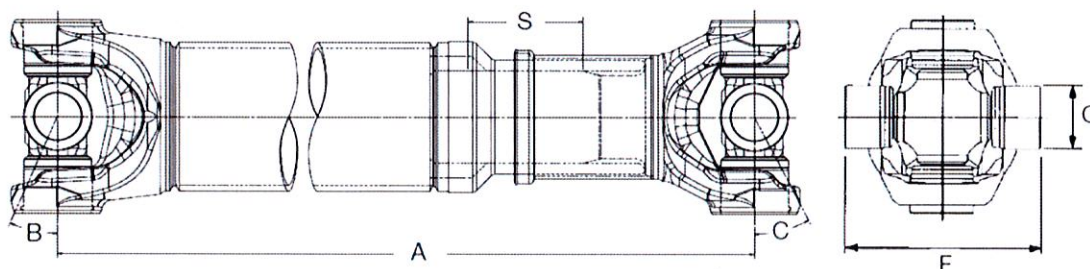
- 40% improvement in calculated bearing capacity for longer life
- Exclusive sealing package for extended life
- Smaller packaging allows for greater flexibility among driveshaft configurations
- Efficient design delivers 70 percent higher power density

Sales Code	Service Level
2042302	Requires Maintenance
2042304	Maintenance Free

Torque Rating		Wall Thickness	
(lbs. ft.)	Nm		
15,489	21,000	4.25 mm	0.167 in

Slip Between Center Driveshaft

Minimum Length Collapsed Centerline to Centerline of Cross "A"		Slip Joint End			Tight Joint End			U-Joint Span "F"		Bearing Cup Diameter "G"	
		Slip "S"		Maximum Angle "B"	Tube Size		Maximum Angle "C"				
					mm	in		mm	in	mm	in
507.7	19.99	150	5.91	45°	128.5 x 4.25	5.06 x 0.167	45°	163	6.42	60	2.37





Product Information

113- Air Compressors and Air Dryers, Mack Conventional Models with MP7 and MP8 Engines

Updated: April 18, 2023

Sales Code	Air Compressor Specs			Air Dryer Specs						
	Air Compressor	Air Inlet	Compressor Cylinder	Air Dryer	Air Dryer Name	Heated	Desiccant Element	Purge Tank	Turbo Cutoff	Governor Location
1133402	WABCO 636 (37.4 CFM)	Filtered Non-Boosted	Twin		Bendix AD-IP Extended Purge	12V/90W	Center Bolted Canister	Internal purge with supplementary (Extend Purge) tank in the rail	N	Bulkhead Mounted
1133422	WABCO 318 (18.7 CFM)	Filtered Non-Boosted	Single		Bendix AD-IP Extended Purge	12V/90W	Center Bolted Canister	Internal purge with supplementary (Extend Purge) tank in the rail	N	Bulkhead Mounted
1133410	WABCO 636 (37.4 CFM)	Filtered Non-Boosted	Twin		Bendix AD-IP	12V/90W	Center Bolted Canister	Completely self-contained unit that does not require an extra purge tank.	N	Bulkhead Mounted
1133424	WABCO 318 (18.7 CFM)	Filtered Non-Boosted	Single		Bendix AD-IP	12V/90W	Center Bolted Canister	Completely self-contained unit that does not require an extra purge tank.	Y	Bulkhead Mounted
1133414	WABCO 636 (37.4 CFM)	Filtered Non-Boosted	Twin		Bendix AD9	12V/75W	Perimeter Bolted Canister (8 bolts)	Completely self-contained unit that does not require an extra purge tank.	N	Bulkhead Mounted
1133423	WABCO 318 (18.7 CFM)	Filtered Non-Boosted	Single		Bendix AD9	12V/75W	Perimeter Bolted Canister (8 bolts)	Completely self-contained unit that does not require an extra purge tank.	N	Bulkhead Mounted
1133411	WABCO 636 (37.4 CFM)	Filtered Non-Boosted	Twin		WABCO System Saver 1200 Twin	12V/95W	Twin Spin On Canisters (no bolts)	This dryer used the supply (wet) tank to purge the system.	N	Bulkhead Mounted
1133416	WABCO 318 (18.7 CFM)	Filtered Non-Boosted	Single		WABCO System Saver 1200 Twin	12V/95W	Twin Spin On Canisters (no bolts)	This dryer used the supply (wet) tank to purge the system.	Y	Bulkhead Mounted
1133413	WABCO 636 (37.4 CFM)	Filtered Non-Boosted	Twin		WABCO System Saver 1200 Plus	12V/95W	Spin On Canister (no bolts)	Completely self-contained unit that does not require an extra purge tank.	N	Integrated to Air dryer
1133418	WABCO 318 (18.7 CFM)	Filtered Non-Boosted	Single		WABCO System Saver 1200 Plus	12V/95W	Spin On Canister (no bolts)	Completely self-contained unit that does not require an extra purge tank.	N	Integrated to Air dryer

Product Information



1321236 DELCO ALTERNATOR, 28SI 12v 160-AMP, BRUSH TYPE

Updated: June 4, 2021

The Delco Remy 28SI alternator is designed to address vehicle applications that require higher electrical output, with lower weight, improved temperature capability, and fuel savings. The 28SI brush style alternator is designed with dual internal fans which provide maximum cooling technology, improving the operating efficiency and durability of the unit.

Mack offers this as an improved, cost-effective replacement for the previously offered 24SI models rated 100A, 130A, 145A, and 160A. As such, a remote sense signal wire is not provided with this offering.

Features and Benefits:

- Dual Internal Fans create cool environment for bearings and electronics
- Multi-function regulator features auto-start and remote sense capability
- The rear cover protects electronics while managing airflow
- Easy installation with one-wire connection
- Advanced design "Avalanche" press fit diodes provide long life, protection from electrical system spikes

Specifications:

Performance Output: 160 Amps – 14.2 Volts (12V nominal) 125 Amps at Idle

Construction: Brush

Stator Diameter: 5.67" (144mm)

Typical Weight: 18.7lbs (8.5 kg)

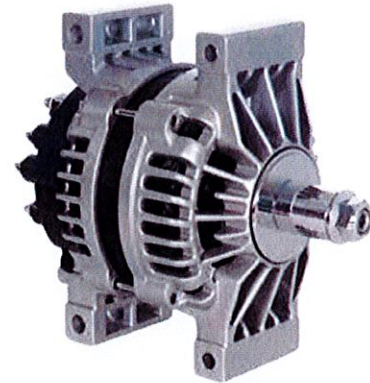
Speed Capability: Continuous - 10,000 rpm
Intermittent 12,000 rpm

Inlet Temperature Limits: Low: -40°C / -40°F
High: 125°C / 257°F

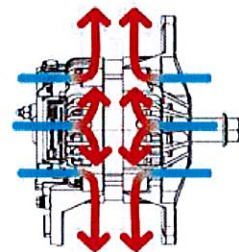
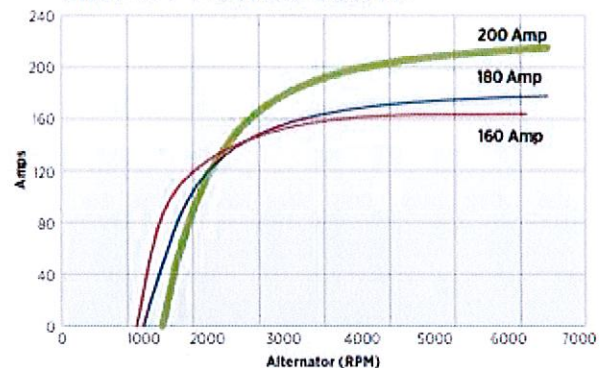
Polarity: Negative Ground

Rotation: Clockwise

Alternator RPM: 3.5 x Engine RPM



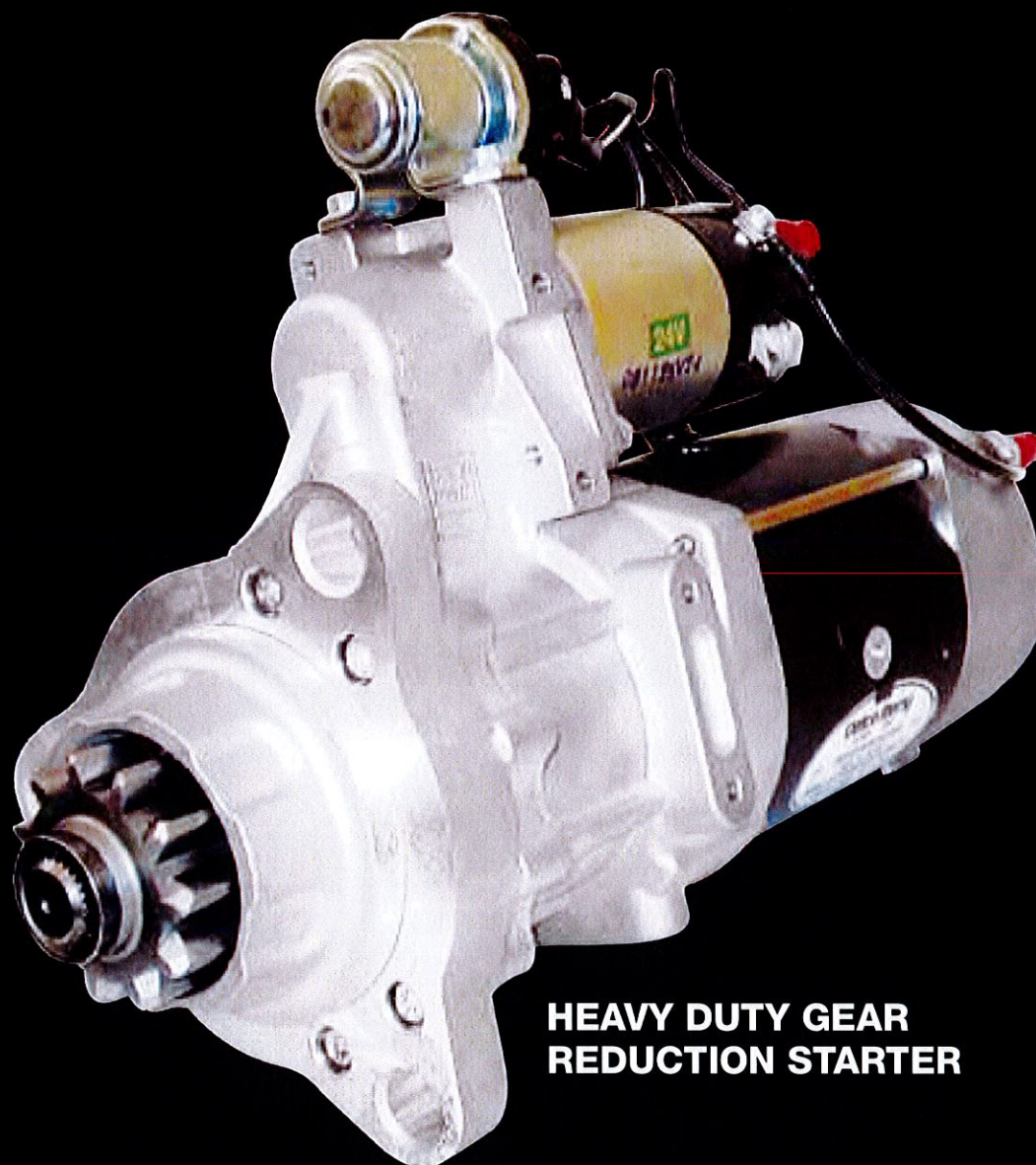
28SI 12V POWER CURVE



28SI Air Flow Draws air from drive end and terminal end over electronics and internal components and out frame air vents for cooler internal alternator temperature



DELCO REMY 39MT



HEAVY DUTY GEAR
REDUCTION STARTER

**HEAVY IN FEATURES
LIGHT IN WEIGHT**

DELCO REMY 39MT



The Delco Remy 39MT Heavy Duty Starter Motor offers engineering enhancements and features that put it in a class of it's own, with 15% more power and greater durability.

LONG LIFE BRUSHES

The 39MT features new long life brushes, engineered for maximum service life. Start after start, day after day, year after year, these unique brushes allow us to back the 39MT starters with a 3-year unlimited mileage warranty.

IMPROVED DRIVER SYSTEM

Durability is also a benefit of the new and improved drive system that provides up to 40% increase in strength. It's more resistant to high-impact loads that can sometimes occur as a result of rapid re-engagement, engine rock-back or engine hydro-lock.

FEATURES

STANDARD INTEGRAL MAGNETIC SWITCH

Reduces voltage drop and ensures that the solenoid receives the maximum available voltage in any starting condition

MAXIMUM TORQUE TECHNOLOGY

For exceptional torque and starting power

LIGHT WEIGHT

Cast-aluminum body helps to keep the weight down without sacrificing strength or durability

SEALED NOSELESS CONFIGURATION

Eliminates accumulation of debris and reduces contamination for the life of the starter

ELECTRICAL SOFT START

Design rotates the pinion to allow for proper pinion-to-ring gear alignment and full engagement before cranking at full power

SOLID LINK SOLENOID

Prolongs service life by eliminating contact welding in low-voltage situations

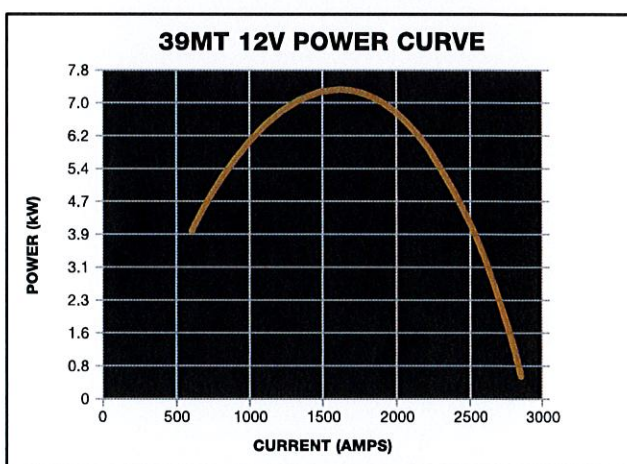
HEAVY DUTY BEARING AND BUSHING SYSTEM

Increases reliability and service life

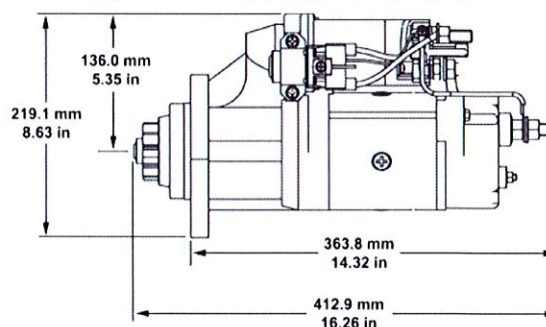
SPECIFICATIONS

ENGINE SIZE	12V up to 16 Liters 24V up to 16 Liters
ROTATION	Clockwise
MOUNTING	12V: SAE #1, SAE #3 24V: SAE #3
PINION DATA	11 Tooth, 6-8 Pitch 12 Tooth, 8-10 Pitch 12 Tooth, Mod 3-metric
OUTPUT	12V Peak at 7.3 kW 24V Peak at 9.0 kW
WEIGHT	14 kg/30.8 lbs.
DIAMETER	114 mm/4.5 inches
HEAVY DUTY DRIVE	Electrical Soft-Start Engagement System Overrunning Clutch

PERFORMANCE



DIMENSIONS



The information in this document was accurate as of the date of the publication. Illustrations may not be representative of current product. Mack Trucks, Inc. reserves the right to make changes in specifications, equipment or design, or to discontinue models or options without notice at any time.

SALES ENGINEERING
MackTrucks.com

Product Information



EBR-VEB Mack MP8 PowerLeash™ (110-AA6)

Affects: Anthem, Pinnacle, Granite
Related: Interior Trim (004)
Updated: Jan 30, 2019




MACK PowerLeash™ Engine Brake

The Mack PowerLeash engine brake available on the MP8 engine, controls vehicle speed by using engine compression in conjunction with internal engine exhaust braking functions. Engine braking reduces wear on the foundation brakes and helps a driver maintain control of the vehicle. The Mack engine braking can also be ordered to work in unison with the vehicle's cruise control system, to maintain the vehicle set speed in downhill terrain.

The Anthem, Pinnacle and GU system integrates the PowerLeash switch in a stalk switch mounted on the right hand side of the steering column. The stalk is used to activate, deactivate or change setting of the PowerLeash system. This system can be used in conjunction with the cruise control to adjust for over speed on downhill grades to maintain a target speed.

The system uses a five position control switch along with a set switch to adjust settings. The first four positions of the control switch stop at detents, with the fifth position being a momentary type switch. See outline below for more information on the switches.

With the control switch in any on position, the set switch can be used to adjust maximum target speed to maintain the set target speed on downhill grades. When the brake engages to maintain a target speed, the engine braking can vary from 0%-100% to maintain the set speed.

Control Switch	Set Switch	Set Speed in Instrument Panel Display
		
To activate the engine brake, move the stalk switch, to the LOW, MED or HIGH position (1). The last stalk switch position B+, is for maximum engine braking and is controlled by a momentary switch.	The cruise control braking set target speed can be adjusted up to 9 mph higher than the current cruise control set speed (1)..	When the cruise control and engine brake are activated the following icons display in the Driver Information Display (DID). 1 – Cruise Control Icon 2 – Current Speed 3 – Current Cruise Control Braking Set Speed 4 – Cruise Control Braking Icon

Note: If equipped with a Mack Active Cruise Control, the engine brake may engage even if the engine brake is switched off. This is performed in order to help maintain a safe following distance between vehicles.

Note: For mDRIVE users, when the Mack engine brake is activated and the transmission is shifting gears, there will be a momentary interruption of the braking torque.

Product Information



316- Mack Batteries, 12 Volt

Updated: August 9, 2022

Options for battery type and battery quantity may vary by truck model and other options related to the electrical system. This document does not specify all battery package restrictions yet provides definitions of attributes found in battery packages to aid the dealer in selecting a package based on customer requirements.

Note: All Mack battery options are maintenance free and include 3/8" x 16 stainless stud posts.

➤ Battery Type

- **Cranking Battery:** Also referred to as "starter batteries", these batteries are designed to deliver a large burst of power for a short time, such as when starting the engine. Not recommended for use in long periods of cycling such as running sleeper accessories.
- **Dual Purpose Battery:** Serves as a cranking battery but also provides higher reserve capacity necessary for running sleeper accessories for longer periods of time. A better option when adding certain electrical system options such as electric lift gate prep kits.

Good

Better

Best

- **Regular Flooded:** Mack's basic, old-school battery, primarily intended as a cranking battery. The least expensive and the least durable of all battery options – not the best option for severe duty applications.
- **Enhanced Flooded:** Dual purpose batteries for starting and longer cycling. Cost more than regular flooded options but cost less than AGM options. Up to double the cycle life compared to regular flooded battery with design features that add durability characteristics similar to those found in AGM batteries.
- **AGM (Absorbed Glass Mat):** The most durable Mack batteries available with a design inherent to be most tolerant to vibration and shock. More expensive than regular flooded and enhanced-flooded options. Provides up to 3-times the life of enhanced flooded batteries in laboratory conditions. Non-spillable as defined by the DOT.

❖ *Author's note: If ever in doubt about selecting a particular battery package, go with an AGM option every time. These options are worth every penny given the battery's design for durability, longevity, and reliability.*

- **Battery Type and Quantity:** Options for battery type and quantity will vary with other electrical system options such as alternator selection, shore power with inverter, or APU.
- **Battery voltage and Cold Cranking Amperage (CCA):** All batteries are 12V. CCA varies per individual battery and number of batteries in a package. All individual batteries and packages are defined in the following table.

Product Information



316- Mack Batteries, 12 Volt

Updated: August 9, 2022

- **Cold Cranking Amperage (CCA):** CCA is a rating used to define a battery's ability to start the engine in cold temperatures (generally, it is easier to start an engine in a warm environment than in a cold environment). The CCA rating refers to the number of amps a 12-volt battery can deliver at 0° F (-18° C) for 30 seconds while maintaining a voltage of at least 7.2 volts. The higher the CCA rating, the greater the starting power of the battery. If you live in a cold climate, the CCA rating is a more important consideration than in warm weather climates.

Interpreting CCA ratings per battery package

$$\begin{array}{ccccc} & \text{(3) MACK 12V 760/2280 CCA} & & & \\ & \swarrow \quad \uparrow \quad \nwarrow & & & \\ \text{Battery} & \times & \text{Individual} & = & \text{Combined} \\ \text{quantity} & & \text{battery CCA} & & \text{package CCA} \\ & & \text{rating} & & \end{array}$$

- **Combined Reserve Capacity:** Reserve capacity is simply the time in minutes a battery can sustain a 25-amp load without dropping below 10.5 volts, at which time the battery should be recharged. The table below lists the combined reserve capacity for all Mack battery package options, which is useful for determining the best option for meeting the customer's cycle requirements.

Sales Code	Battery Qty.	Individual Battery CCA	Combined CCA	Combined Reserve Capacity	Battery Type
3165105	3	650	1950	450	Regular Flooded Cranking Battery
3166104	4		2600	600	
3165104	3	760	2280	510	
3166106	4		3040	680	
3164104	2	1000	2000	370	
3165106	3		3000	555	
3166105	4		4000	740	
3165107	3	730	2190	570	Enhanced Flooded Dual Purpose Battery
3166107	4		2920	760	
3165108	3	800	2400	600	AGM Dual Purpose Battery
3166108	4		3200	800	
3169029	4	925	3700	760	

Good
↓
Better
↓
Best

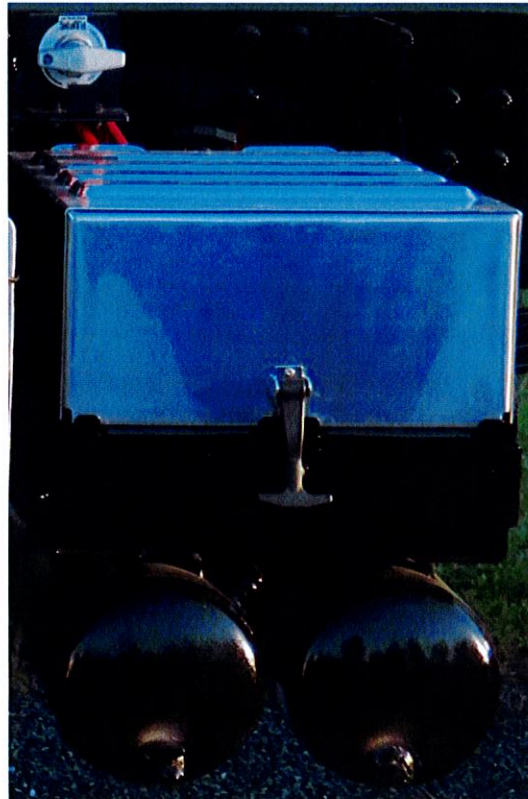
Product Information



BBOXC-AP Battery Box Cover, Polished Aluminum (L5XF1X)

Affects: All Models
Related: Battery Box (393)
Updated: October 18, 2017

BBOXC-AP shown on a Granite Axle Forward with (3) Battery Box:



Product Information



MCA - ENGINE STARTING AIDS

Affects: Anthem, Pinnacle, Granite, LR, TerraPro

Updated: August 20, 2020

The MCA family of sales codes cover a variety of engine starting aids used to improve engine starting in cold weather conditions. Starting aids may be ordered as stand-alone features or bundled with additional starting aids depending on the severity of the operating conditions. The MCA family includes the following starting aid options:

- Electric Engine Block Heater (varying wattage)
- Electric Engine Oil Pan Heater
- Electric Intake Manifold Grid Heater
- An optional thermostat and dash-mounted indicator lamp is available for the engine block heater as a CA variant.

The following table is a complete listing of all MCA family sales codes showing stand-alone and bundled starting aids. Following the table is a description of each feature.

- **Please note the varying external electrical requirements for voltage, wattage and amperage for each feature.**

Sales Code	Stand-alone or Bundled Feature	Feature Includes	External Electrical Requirements	CA Option
MCA0001	Bundle	<ul style="list-style-type: none">• Block Heater (1000w)• Oil Pan Heater (150w)	120V - 15A	No
MCA0002	Bundle	<ul style="list-style-type: none">• Block Heater (1500w)• Oil Pan Heater (150w)	120V - 20A	No
MCA0003	Stand-alone	<ul style="list-style-type: none">• Block Heater (1000w)	120V - 15A	No
MCA0004	Stand-alone	<ul style="list-style-type: none">• Block Heater (1500w)	120V - 15A	No
MCA0005	Bundle	<ul style="list-style-type: none">• Block Heater (1500w)• Thermostat and indicator lamp	120V - 15A	Yes
MCA0006	Stand-alone	<ul style="list-style-type: none">• Block Heater (1500w)	220V - 15A	No
MCA0050	Stand-alone	<ul style="list-style-type: none">• Grid Heater	None	No
MCA0051	Bundle	<ul style="list-style-type: none">• Grid Heater• Block Heater (1000w)• Oil Pan Heater (150w)	None 120V - 15A	No
MCA0052	Bundle	<ul style="list-style-type: none">• Grid Heater• Block Heater (1500w)• Oil Pan Heater (150w)	None 120V - 20A	No

Product Information



MCA - ENGINE STARTING AIDS

Affects: Anthem, Pinnacle, Granite, LR, TerraPro

Updated: August 20, 2020

MCA0053	Bundle	<ul style="list-style-type: none">• Grid Heater• Block Heater (1000w)	None	No
			120V - 15A	
MCA0054	Bundle	<ul style="list-style-type: none">• Grid Heater• Block Heater (1500w)	None	No
			120V - 15A	
MCA0055	Bundle	<ul style="list-style-type: none">• Grid Heater• Block Heater (1500w)• Thermostat and indicator lamp	None	Yes
			120V - 15A	
MCA0056	Bundle	<ul style="list-style-type: none">• Grid Heater• Block Heater (1500w)	None	No
			220V - 15A	
MCA0057	Bundle	<ul style="list-style-type: none">• Grid Heater• Block Heater (1500w)• Oil Pan Heater (150w)• Thermostat and indicator lamp	None	Yes
			120V - 20A	
			None	

Engine Block Heater

The engine block heater is located in the engine coolant system and is responsible for warming the coolant throughout the engine block, cylinder head and around the cylinders liners. The block heater is powered by an external 120v or 220v power source with varied amperage ratings.

Engine Electric Pre-heater

The pre-heater is located at the inlet of the engine intake manifold and powered by the vehicle's 12v electrical system. When ambient air temperature is below 54°F the pre-heater will engage, heating the air as it enters the manifold. Once the engine has started, the pre-heater will typically remain active for 25 to 50 seconds.

Oil Pan Heater

The oil pan heater is used to heat the engine oil while the vehicle is stationary. The oil heater is powered by an external 120v source.

Product Information



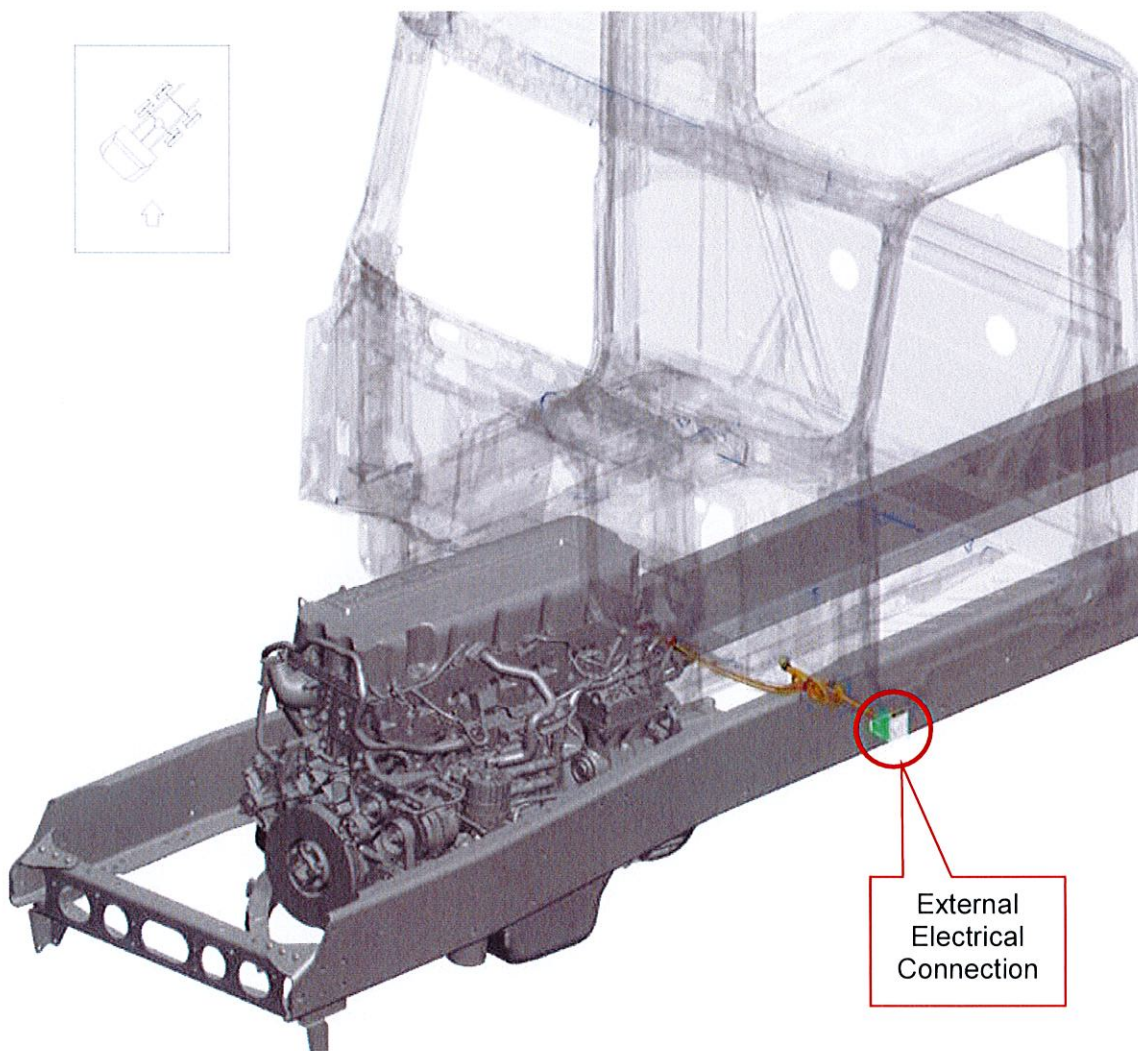
MCA - ENGINE STARTING AIDS

Affects: Anthem, Pinnacle, Granite, LR, TerraPro

Updated: August 20, 2020

Location of External Power Supply Connections by Model

- **All Conventional Models:** Electrical connection mounted under the driver side rocker panel



Product Information

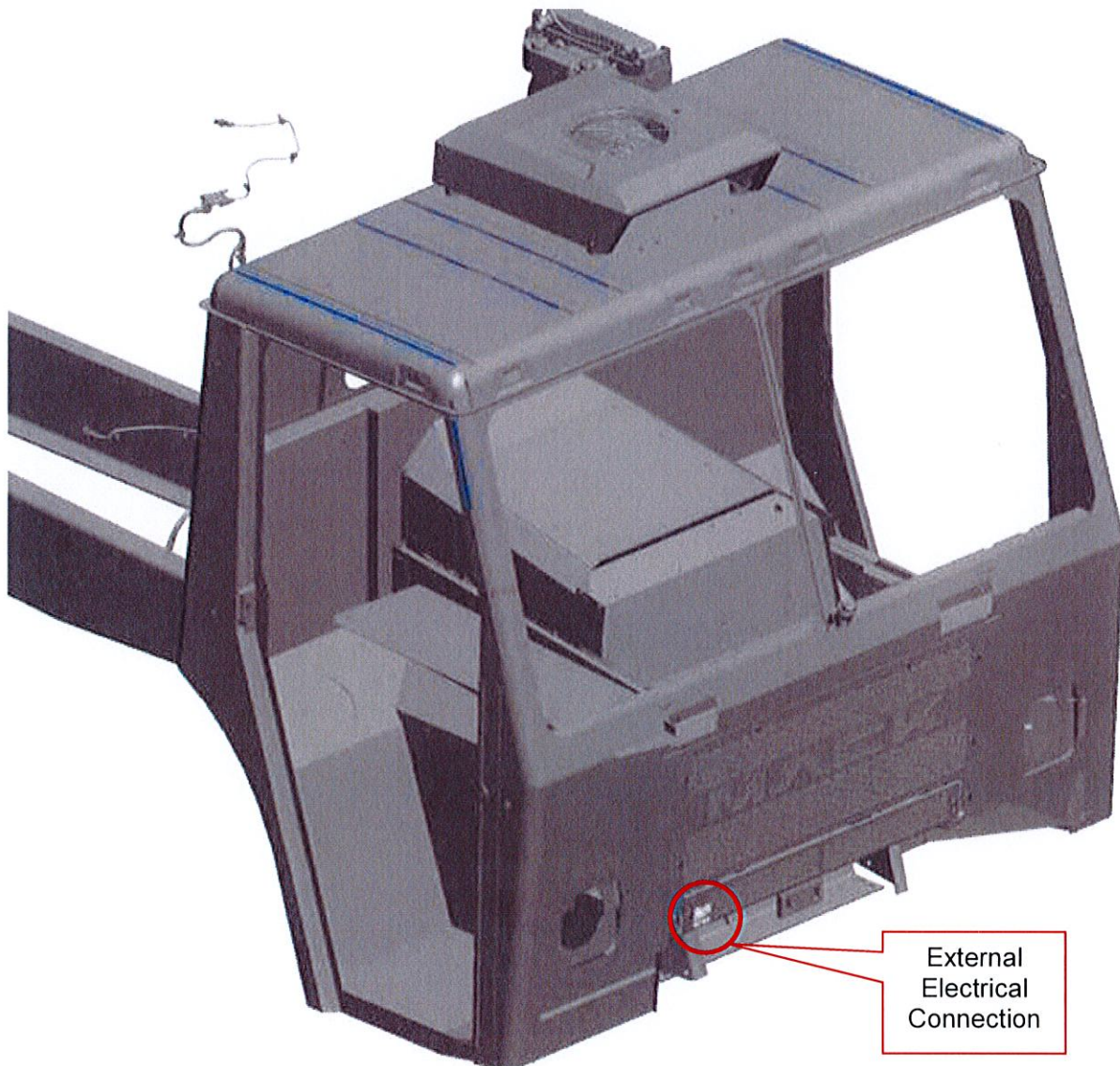


MCA - ENGINE STARTING AIDS

Affects: Anthem, Pinnacle, Granite, LR, TerraPro

Updated: August 20, 2020

- **LR:** Mounted in the grille next to the right hand headlamp.



Product Information

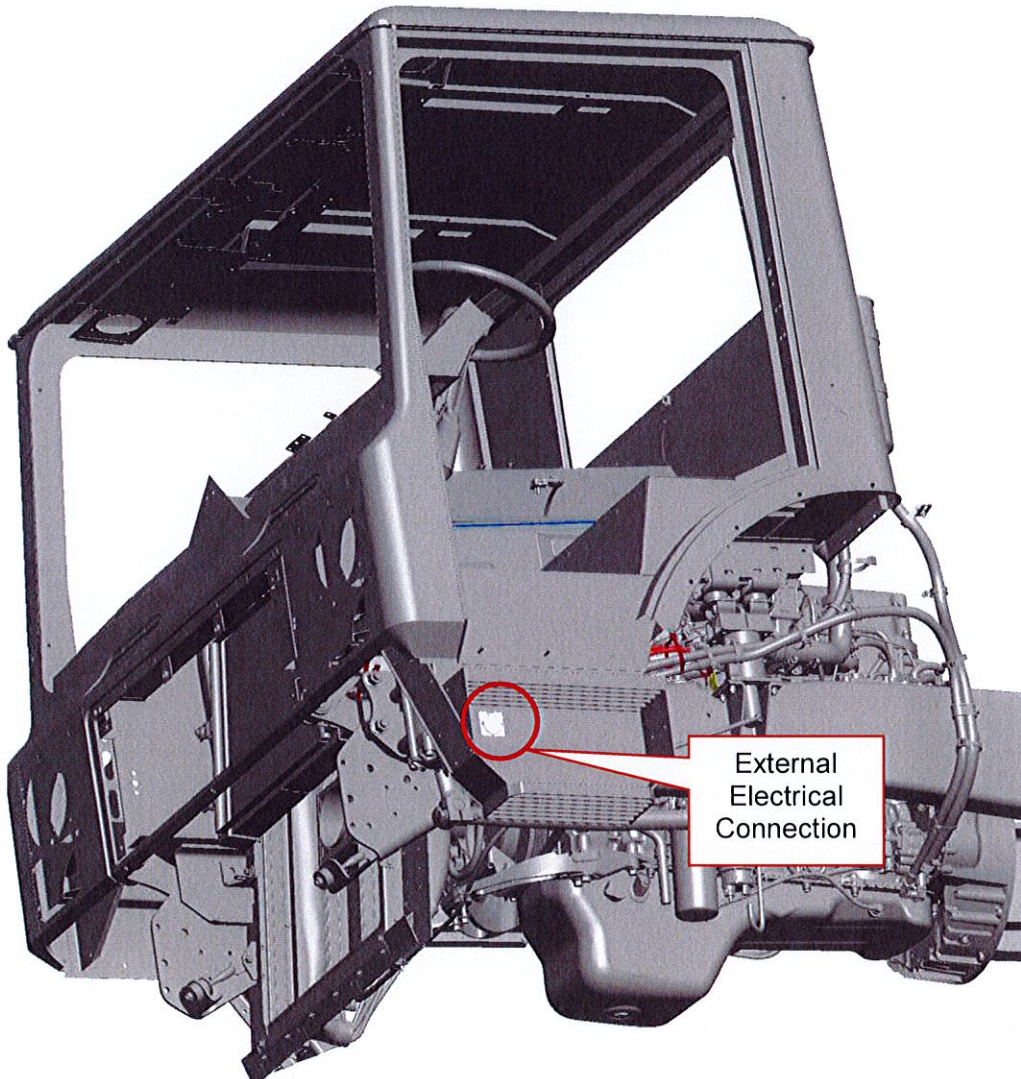


MCA - ENGINE STARTING AIDS

Affects: Anthem, Pinnacle, Granite, LR, TerraPro

Updated: August 20, 2020

- **TerraPro:** Mounted between the driver side cab entry steps.



Product Information



MCA - ENGINE STARTING AIDS

Affects: Anthem, Pinnacle, Granite, LR, TerraPro

Updated: August 20, 2020

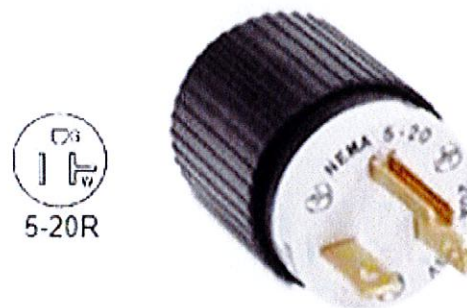
External Power Supply Requirements

When an engine block heater and oil pan heater are ordered together, the wiring for both systems are integrated into the external power supply connector.

When a 1500 watt engine block heater is selected in conjunction with the oil pan heater, the vehicle harness receptacle will be equipped with a NEMA 120V-20amp "Industrial Plug" in place of a NEMA 120V-15amp "Household Plug".



NEMA 120V-15amp "Household Plug"



NEMA 120V-20amp "Industrial Plug"

Product Information



1180027 BEHR FAN AND ELECTRONICMODULATING VISCOUS FAN DRIVE (118AB8)

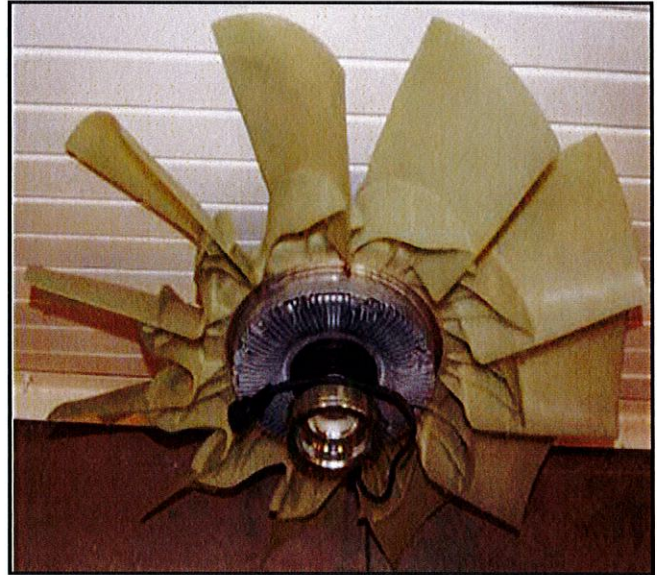
Related:

Updated: October 31, 2019

The Behr Cold Start Improved (CSI) electronically-controlled viscous (E-Visco®) fan and clutch implements an aerodynamically improved blade design, driving more air flow with less fan power consumption. This is a maintenance-free system that reduces noise (due to low engagement rates) and lowers fuel consumption. This system uses a solenoid, rather than the bi-metal strip used on a conventional Visco® clutch.

The CSI E-Visco® fan clutch provides improved controls to minimize fan on-time, better management of engine cooling and fuel efficiency. This fan clutch provides a cold start feature to trigger quicker and extended disengagement for easier starting in cold climates. Lower disengagement speeds have also been developed to better manage engine cooling needs.

The electrically drive E-Visco® clutch directly controls the coolant requirements by means of electrical sensors. A regulator processes the values (for coolant, oil and charge-air temperatures, engine speed, retarder, HVAC system, etc.) and a clocked control current forwards them to the integrated electromagnet. The discrete-operated magnetic field has an armature via which it operates the valve controlling the internal oil flow and the control circuit is closed by an additional sensor for the fan speed. This increases the dynamic response of the engagement and disengagement of the fan. Adjustment of the cooling as required improves the coolant temperature level while minimizing noise and fuel consumption.



System Features:

- Low Noise Operation
- Low idle speed
- Quick engagement
- Fan speed adjusts to cooling requirements
- Low oscillations of coolant temperature
- Increased performance life (slip-heat protection*)
- Increased torque capacity (comparable to On/Off clutches)
- Soft engagements (no torque-peaks at engagement)

***Slip-heat Protection**

This prevents intermediate fan speeds at high input speed. Without this protection, the clutch may overheat at high input speed.

Limits of Slip-heat Protection

- No limitations below drive input speed of 2400 rpm (approx. 1800rpm engine speed)
- Function similar to On/Off fan at drive input speed of 2400-3060 rpm (approx. 2300 rpm engine speed)

Product Information



DPF- ClearTech™ One US17 Emission Systems

Affects: All Models
Related: Chassis Configuration
Updated: November 13, 2017

US'17 emission standards still require the use of a DPF and an SCR. ClearTech One™ is the name for Mack's new frame mounted single unit – Sales Code DPF0111. Other emission configurations have also been upgraded to US'17 standards and are depicted below.

DPF-0111 Shown on a Granite Axle Forward:



ClearTech One – DPF-0111 replaces the previous two component systems: DPF-0103, DPF-0104, and DPF-0105. On Granite Models with Mack engines, DPF-0111 will be in the forwardmost position behind the right front fender. If a Twin Steer package is ordered with the new frame mounted ClearTech One system, please refer to the Packaging Data Sheets for relocated position on the right hand frame rail.

Shown on a Pinnacle with Dual Battery Boxes:



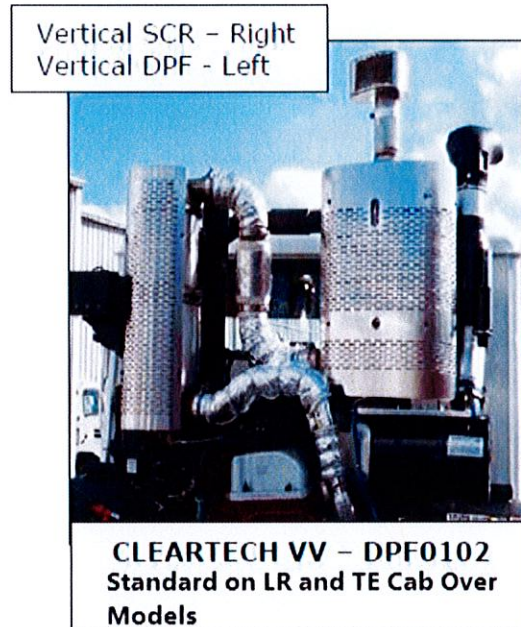
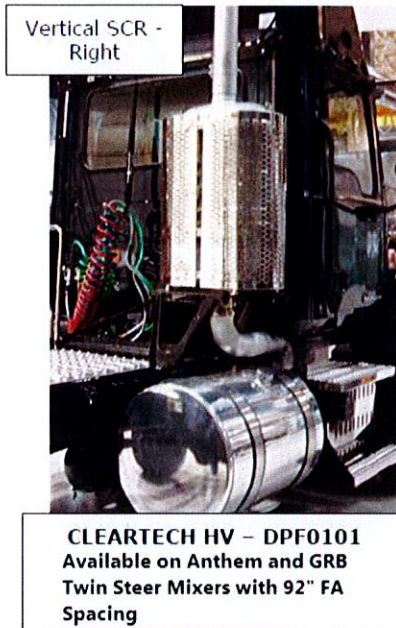
Product Information



DPF- ClearTech™ One US17 Emission Systems

Affects: All Models
Related: Chassis Configuration
Updated: November 13, 2017

Other systems that are available on the models listed in the description:



Product Information



130-5011 Dual Verticle Exhaust, Outboard Mounted, Turned Ends (130AC4)

Affects: Conventional Models
Related: DPF/SCR (DPF), Exhaust Finish (EXMF)
Updated: April 24, 2018

Dual Exhaust, Outboard Mounted, Turned Ends with Bright Finish.





PRODUCT INFORMATION

312- ROOF & SIDE MARKER LIGHTS (CONVENTIONAL MODELS)

Updated: March 22, 2023

Mack Trucks offer dealers and customers various options for customizing cab marker lamps that are roof-mounted and cab side-mounted.

The table at right identifies all marker lamp attributes found in the 312 family for all conventional models.

Marker lamp style may vary by truck model but can generally be grouped by trucks *without* roof fairings, and trucks *with* roof fairings.

General Notes:

- All roof-mounted marker lamps are LED and come in groups of five.
- All conventional models are standard with side / cowl-mounted incandescent lamps. These lamps function as marker lamps and turn indicators.
- Options are available to add additional marker lamps below the cab doors, either as LED or incandescent lamps. These lamps also function as marker lamps and turn indicators.

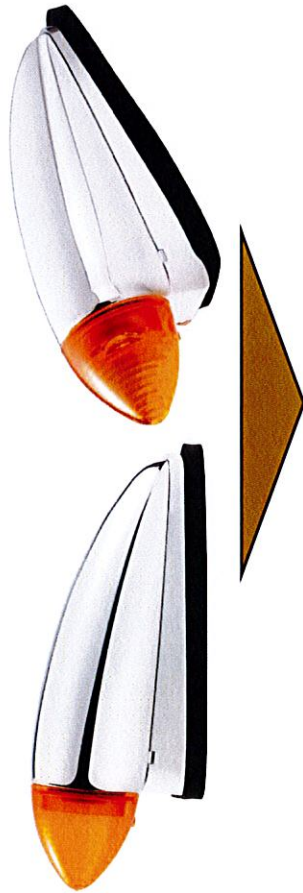
Trucks Without Roof Fairings			
Sales Code	Roof Marker Lamp (All LED Lamps)	Cowl-mounted Marker Lamp (All Incandescent Lamps)	Additional Side Marker Lamp, Under Door (LED or Incandescent Lamps)
3120101	(5) Truck-Lite - Full Bullet	Yes	Yes - Grote LED
3120102	(5) Truck-Lite - Full Bullet	Yes	No
3120103	(5) Truck-Lite - Full Bullet	Yes	Yes - Truck-Lite Incandescent
3120104	(5) Truck-Lite - Full Bullet	Yes	Yes - Truck-Lite LED
3120109	(5) Truck-Lite - Half Bullet	Yes	Yes - Grote LED
3120110	(5) Truck-Lite - Half Bullet	Yes	No
3120111	(5) Truck-Lite - Half Bullet	Yes	Yes - Truck-Lite Incandescent
3120112	(5) Truck-Lite - Half Bullet	Yes	Yes - Truck-Lite LED
3120117	(5) Grote - Curved	Yes	Yes - Grote LED
3120118	(5) Grote - Curved	Yes	No
3120119	(5) Grote - Curved	Yes	Yes - Truck-Lite Incandescent
3120120	(5) Grote - Curved	Yes	Yes - Truck-Lite LED
3120121	(5) Grote - Curved w/ Chrome Bezel	Yes	Yes - Grote LED
3120122	(5) Grote - Curved w/ Chrome Bezel	Yes	No
3120123	(5) Grote - Curved w/ Chrome Bezel	Yes	Yes - Truck-Lite Incandescent
3120124	(5) Grote - Curved w/ Chrome Bezel	Yes	Yes - Truck-Lite LED
Trucks With Roof Fairings			
Sales Code	Roof Marker Lamp (All LED Lamps)	Cowl-mounted Marker Lamp (All Incandescent Lamps)	Additional Side Marker Lamp, Under Door (LED or Incandescent Lamps)
3120105	(5) Mack Semi-flush - Rectangular	Yes	Yes - Grote LED
3120106	(5) Mack Semi-flush - Rectangular	Yes	No
3120107	(5) Mack Semi-flush - Rectangular	Yes	Yes - Truck-Lite Incandescent
3120108	(5) Mack Semi-flush - Rectangular	Yes	Yes - Truck-Lite LED
3120113	(5) Truck-Lite Semi-flush - Rectangular	Yes	Yes - Grote LED
3120114	(5) Truck-Lite Semi-flush - Rectangular	Yes	No
3120115	(5) Truck-Lite Semi-flush - Rectangular	Yes	Yes - Truck-Lite Incandescent
3120116	(5) Truck-Lite Semi-flush - Rectangular	Yes	Yes - Truck-Lite LED



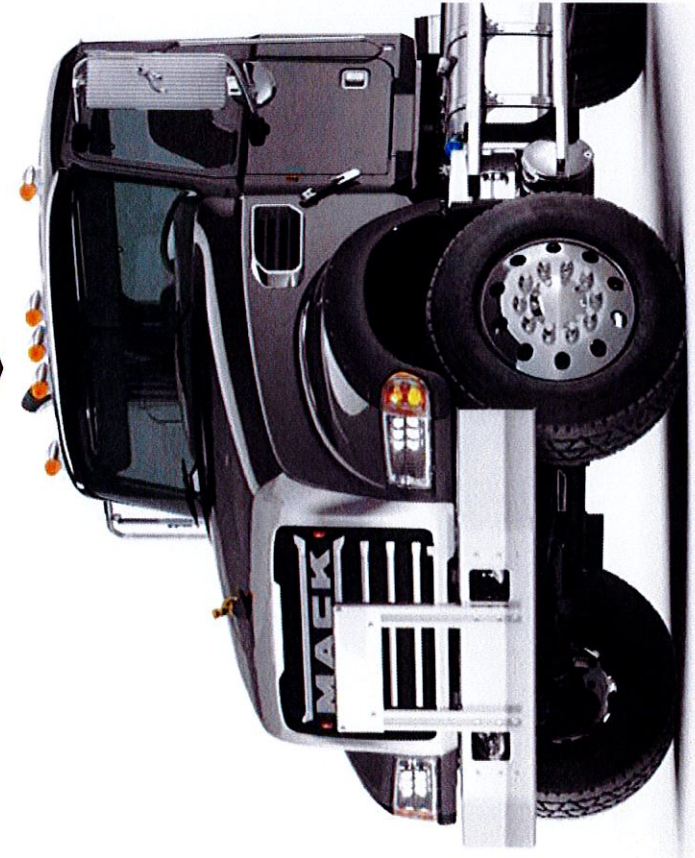
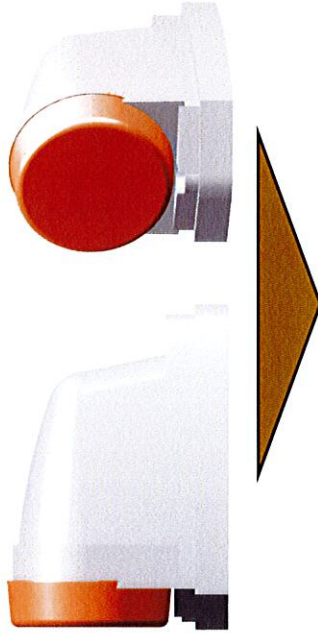
312- ROOF & SIDE MARKER LIGHTS (CONVENTIONAL MODELS)

Updated: March 22, 2023

Truck-Lite Full Bullet



Truck-Lite Half Bullet

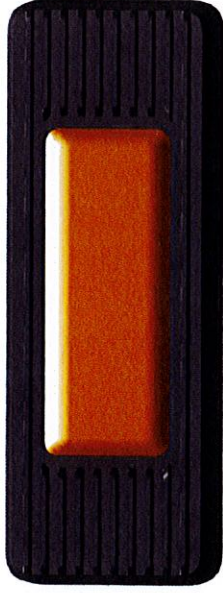




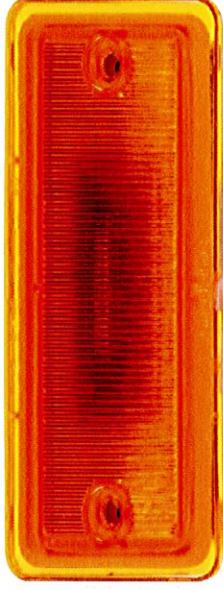
312- ROOF & SIDE MARKER LIGHTS (CONVENTIONAL MODELS)

Updated: March 22, 2023

Mack Semi-flush Rectangular



Truck-Lite Semi-flush Rectangular





312- ROOF & SIDE MARKER LIGHTS (CONVENTIONAL MODELS)

Updated: March 22, 2023

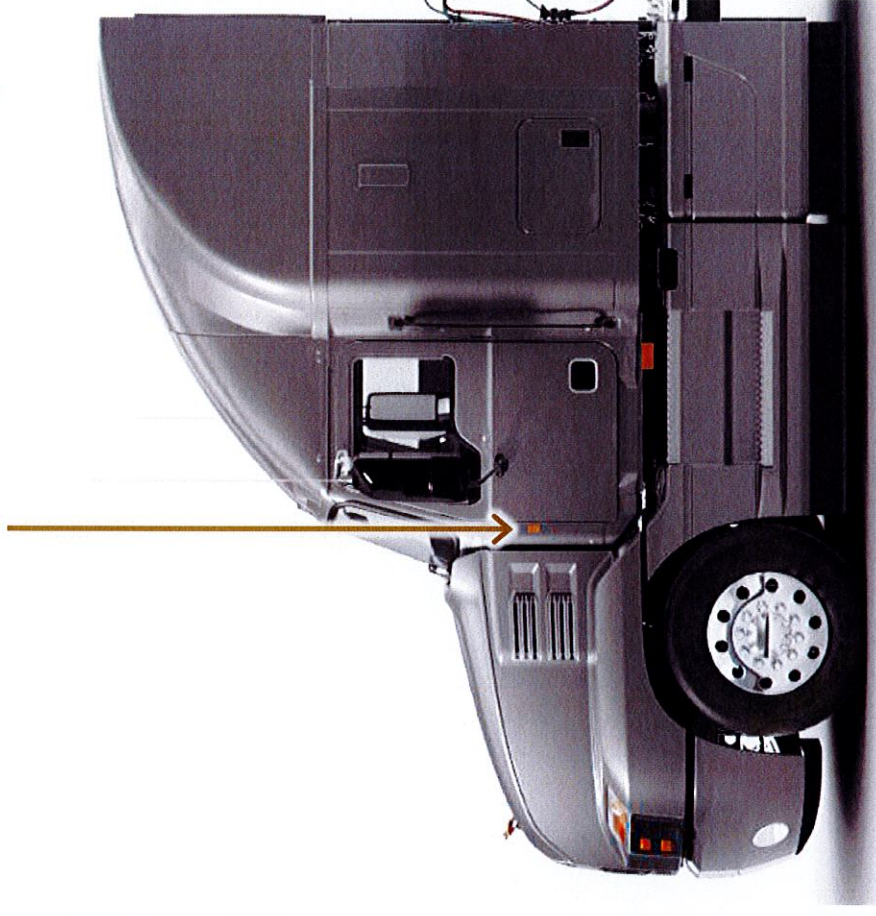
Grote Curved



Grote Curved w/
Chrome Bezel



Standard Side / Cowl-mounted Marker Lamp

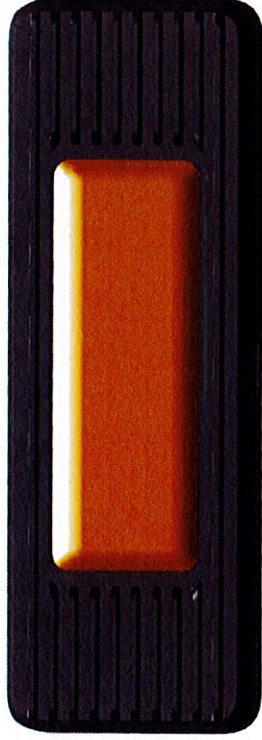




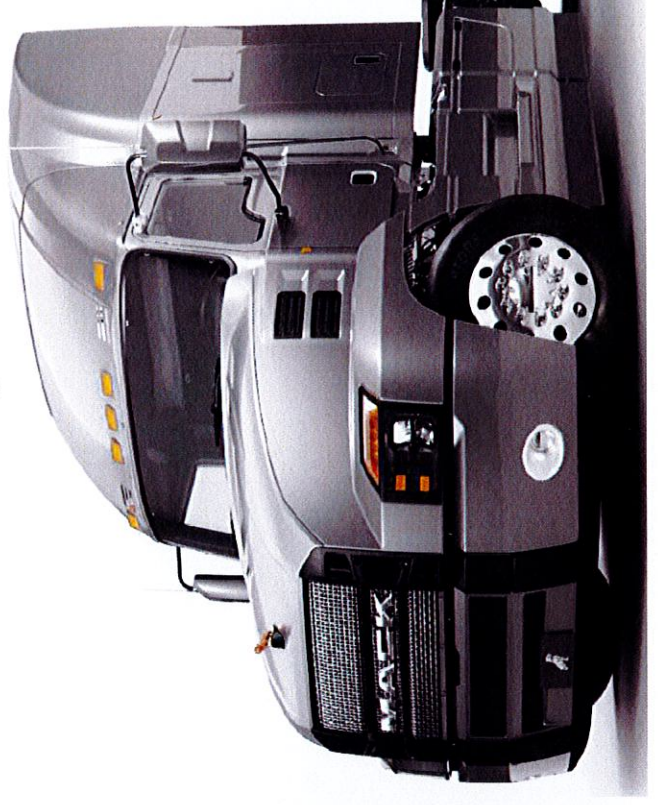
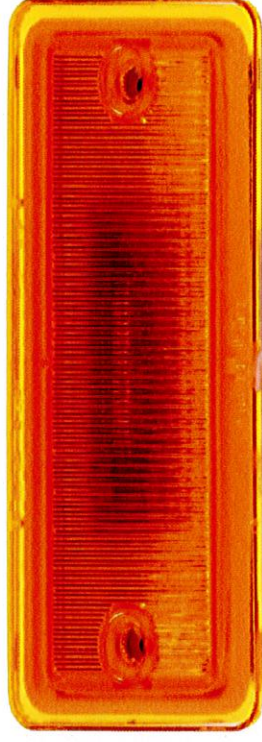
312- ROOF & SIDE MARKER LIGHTS (CONVENTIONAL MODELS)

Updated: March 22, 2023

Mack Semi-flush Rectangular



Truck-Lite Semi-flush Rectangular



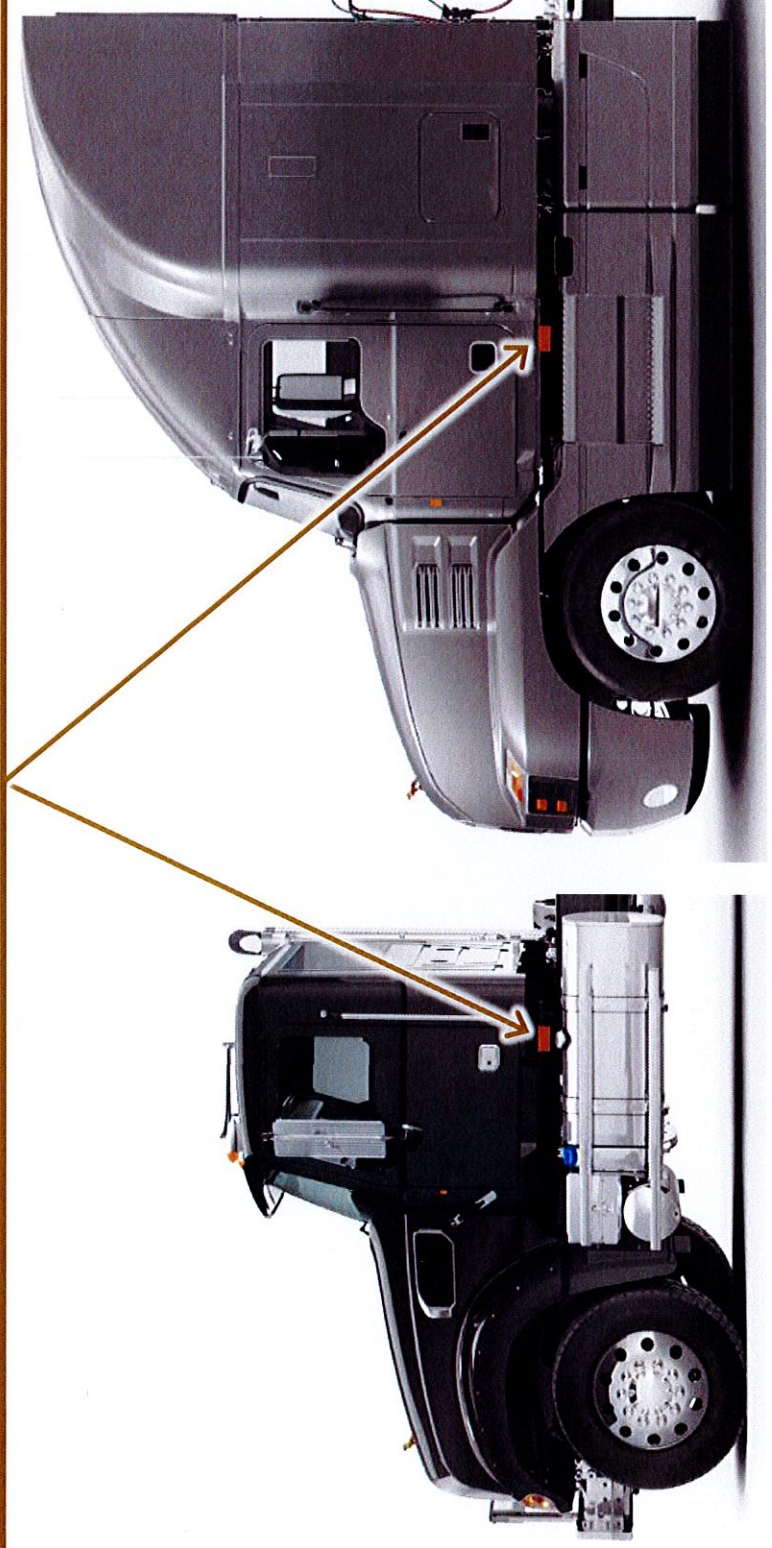
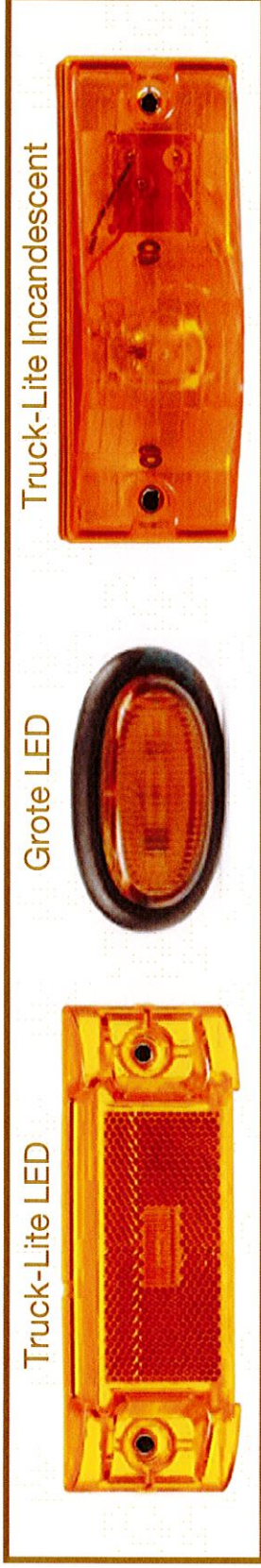
Page 5



312- ROOF & SIDE MARKER LIGHTS (CONVENTIONAL MODELS)

Updated: March 22, 2023

Optional Marker Lamps Under Door



Product Information



BUM-SSBF Front Bumper, Flush, Stainless Steel Clad Aluminum (4DXP1X)

Affects: Conventional Models

Related: Front Frame Extension (FFE), Front Towing Device (TDF)

Updated: December 12, 2017

Shown on Granite Axle Forward:



Product Information



BUM-SSBF Front Bumper, Flush, Stainless Steel Clad Aluminum (4DXP1X)

Affects: Conventional Models

Related: Front Frame Extension (FFE), Front Towing Device (TDF)

Updated: December 12, 2017

Shown on Pinnacle:



Shown on Anthem (18.5" Ground Clearance, No Spoiler, 275/80R22.5 Tires):



Product Information



BUM-SSBF Front Bumper, Flush, Stainless Steel Clad Aluminum (4DXP1X)

Affects: Conventional Models

Related: Front Frame Extension (FFE), Front Towing Device (TDF)

Updated: December 12, 2017



Product Information



FOG-WB Fog Lamps (NGXB1X)

Affects: Anthem, Pinnacle
Related: Exterior Trim Package
Updated: October 12, 2017

Anthem (Chrome Package):



Product Information



FOG-WB Fog Lamps (NGXB1X)

Affects: Anthem, Pinnacle
Related: Exterior Trim Package
Updated: October 12, 2017

Anthem (Black Package):



Pinnacle:



FRONT AXLE

MAEK[®]

FXL14.6

14,600 LBS. [6 623 kg]



- Unitized wheel hubs—requires no maintenance—permanently sealed with grease.
- Sealed tapered kingpins and bearings keep out road splash, extend axle life and lower maintenance.
- Forged I-Beam construction, strong and lightweight.

DETAIL SPECIFICATIONS

MAKE: MACK

Type Reverse Elliot, Drop-Forged
& Heat Treated I-Beam
Size (Beam Center Height) 3.74" [95 mm]
Flange Width, Top 3.35" [85 mm]
Flange Width, Bottom 3.35" [85 mm]
Web Thickness 0.394" [10 mm]
Section Modulus 5.82" in³ [95 cm³]

STEERING KNUCKLE:

Material Chromium Molybdenum
Alloy Steel, Heat Treated
Spindle Diameter
Inner Bearing 2.28" [58 mm]
Outer Bearing 2.28" [58 mm]
Steering Knuckle Pin:
Material Modified Carbon Steel, Heat
Treated & Induction Hardened
Type Tapered
Diameter
Top 1.57" [40 mm]
Bottom 2.36" [60 mm]

STEERING KNUCKLE: (Continued)

Inclination 6°
Knuckle Pin Support
Upper Tapered Roller Bearing
Lower Grooved Bushing

Thrust Bearing
Type Tapered Roller Bearing
Location Top of Knuckle Pin
Hub Ductile Iron
Bearings Tapered Roller (Unitized)
Lubrication Permanently lubed
with Synthetic Grease

Pivot Centers:
FXL14.669.92" [1 776 mm]
Spring Centers 33.5" [851 mm] MRU
32.5" [826 mm] CHU, CXU, GU

NOTE: FXL used with wide base type tires will exceed 96" [2 438 mm] overall width.



Mack Trucks, Inc., Allentown, Pennsylvania

FXL14.6 FRONT AXLE

14,600 LBS. [6 623 kg]

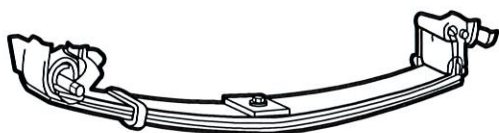
MACK

BRAKES

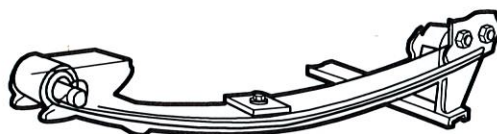
TYPE		CAM
SIZE	DIAMETER WIDTH	16.5" [419 mm] 5" [127 mm]
MAKE		Arvin Meritor
ACTUATION		Air
LINING THICKNESS		0.85" [22 mm] Tapered
LINING AREA, TOTAL		157 in ² [2 026 cm ²]
CHAMBER SIZE— Sq. In. Per Wheel		1 @ 24 [155 cm ²]
SLACK ADJUSTER LENGTH		5.5" [140 mm]
BRAKE ADJUSTMENT		Self-Adjusting
DUST SHIELDS		Optional

SUSPENSION

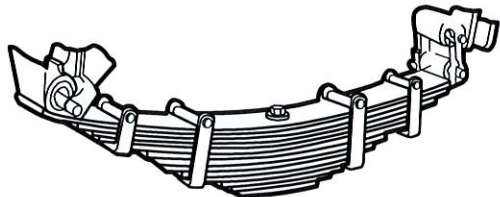
SPRING CAPACITY (GRD. LOAD RATING)	SPRING SIZE	SPRING SIZE		CHASSIS MODEL APPLICATION
		LENGTH	WIDTH	
14,600 lb. [6 623 kg] STD.	Taperleaf - Shackle	52.52" [1 334 mm]	4" [102 mm]	CHU, GU
	Taperleaf - Shackle	58.85" [1 495 mm]	4" [102 mm]	CXU
	Multileaf - Shackle	52.52" [1 334 mm]	4" [102 mm]	GU
	Multileaf - Slipper	50.25" [1 276 mm]	3.5" [89 mm]	MRU



TAPERLEAF SHACKLE



TAPERLEAF EYE & SLIPPER



MULTILEAF SHACKLE



MULTILEAF EYE & SLIPPER

Product Information

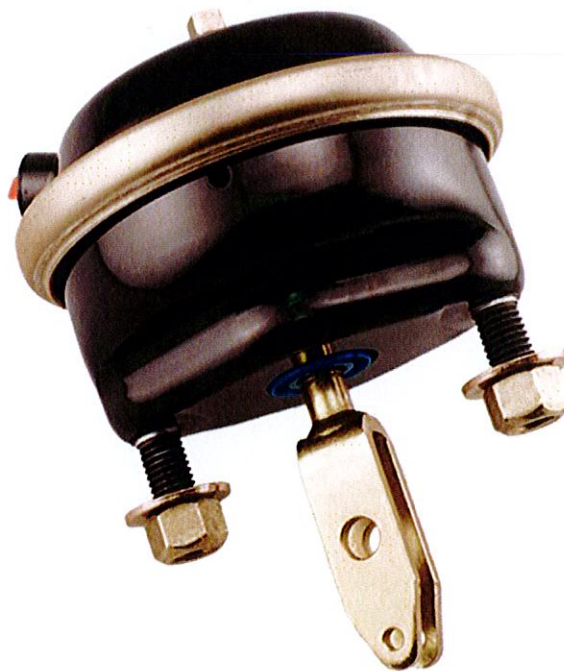


**FBCM-
MAD-**

**HALDEX SERVICE BRAKE CHAMBER, FRONT AXLE
HALDEX SERVICE BRAKE CHAMBER, AUX. AXLES**

Updated: April 6, 2021

- Steel pressure housing - powder coated with resistance welded air ports.
- World class diaphragm - high quality rubber compound, resistant to heat and cold. Superior flexibility even at -40°F.
- Sturdy service housing - powder coated for corrosion resistance.
- Flat bottom with 10 gauge steel.
- Orange Alert® stroke indicator.
- Self-piloting dust shield.

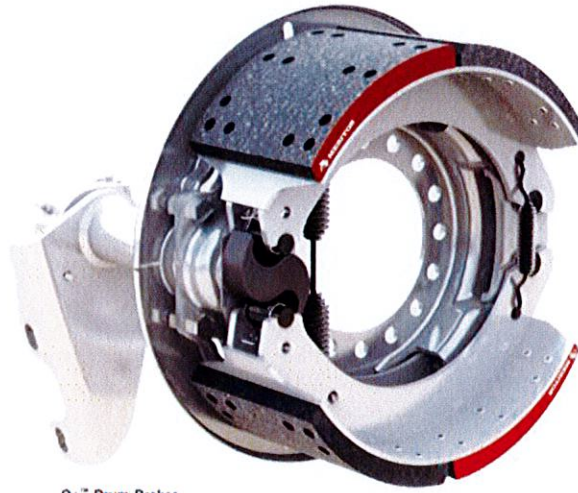


Product Information



241- Meritor Q+ Front Drum Brakes (241)

Affects: All Models
Related: Front Axle (240)
Updated: February 12, 2018



Q+™ Drum Brakes

Premium Stopping Performance

Engineered to assist vehicle manufacturers in meeting FMVSS-121 stopping distance requirements, the Meritor Q+™ drum brake system remains the industry standard. Q+ brakes offer exceptional durability comparable to disc brakes.

Performance advantages:

- Versatility to perform in a variety of applications, including linehaul, regional haul and vocational
- Thicker lining blocks increase service life and mileage between relines
- Specially designed S-cam and heavy-duty shoe return spring delivers additional brake shoe travel for full wear
- Improved camshaft bushing contributes to longer service life

Product Information



241- Meritor Q+ Front Drum Brakes (241)

Affects: All Models
Related: Front Axle (240)
Updated: February 12, 2018

Meritor Q+ Cam Brakes

Performance, serviceability, dependability, simple operation and proven design have made the Meritor Q+ the top choice for drum brake systems.

Features and Benefits

- Optimized lining geometry for uniform wear and consistent performance, enhanced camshaft bushing material, double anchor pin design, and extended lube option minimize maintenance and downtime
- Advanced friction material helps meet revised stopping distance regulation without the use of air disc brakes
- Best-in-class e-coat corrosion protection standard on all Q+ brake shoes
- PlatinumShield™ coating technology is an available option for highly corrosive environments and duty cycles, delivering premium protection against rust-jacking
- Stamped Steel Spider Q+ drum brake option offers weight savings of 6.5 lbs. per brake without sacrificing durability or performance, which improves fuel efficiency and maximizes payload
- Patented quick-change shoe also minimizes downtime
- Most widely used drum brake in the industry means superior support in the aftermarket for parts availability, core return values and service accessibility
- Wider brake shoe packages for improved stopping performance and improves lining life

Product Information



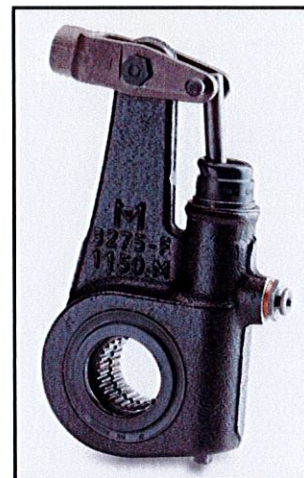
FBADJ-AM Slack Adjuster, Automatic, Meritor, Front

Affects: Anthem, Granite, Pinnacle
Related: Front Axle (240), Front Brakes (U3X)
Updated: May 18, 2020

Meritor's unique design keeps brakes in constant adjustment while eliminating the need for frequent under-the-truck brake adjustments. This reduces brake maintenance costs and vehicle safety inspection citations while also optimizing brake performance.

Performance advantages:

- Maximum reliability and robustness
- Lowest cost and lightest weight ASA on the market
- Only ASA that adjusts on chamber stroke
- 25,000 in-lbs. torque capacity
- Pawl design simplifies service



Features and Benefits

- Pull pawl design requires fewer moving parts, enhancing durability and reliability
- Fully sealed to resist internal contamination for longer life
- Industry's lightest weight ASA, which increases payload and camshaft bracket life
- Self-contained design doesn't require special grounding straps, simplifies installations
- Keeps brakes properly adjusted for shorter stopping distances and longer lining life
- Grease purge to camshaft resists binding
- Ratchet type adjuster minimizes internal wear which results in robust design and maximizes reliability
- Simple to manually adjust with no anti-reverse springs to overcome
- Stroke sensing design

Automatic Slack Adjuster Specifications	
Slack Length (inches)	5.0, 5.5
Arm Configuration	Straight 0.625" offset clevis
Camshaft Spline Size and No.	1.25" - 24
	1.25" - 10
	1.50" - 10
	1.50" - 28
Clevis Thread	0.50" - 20 for chamber type 9,12,16
	0.625" - 18 for 20, and larger chambers



SED

PRODUCT INFORMATION

Sales Engineering

Mack Trucks, Inc.
Allentown, PA 18103
United States

Phone: 800 868 6225
Fax: 610 351 8791

MackTrucks.com

Sales Code: 531 / 346 / MA4 1611

Description: Front Wheel, Accuride 24.5" x 8.25" Accu-Lite

Date: March 12, 2020

Accu-Lite® Aluminum Wheels

The Lightest and Brightest in the Industry



Surface Treatment

With the introduction of Accu-Lite® Aluminum Wheels - with their lighter weight and superior finish - Accuride once again set a new standard for lightweight aluminum wheels! We not only shaved weight off our previously lightweight wheels, but we also streamlined our available part numbers to make specifying even easier.

All Accu-Lite Aluminum Wheels are available with Standard Polish (SP), Extra Polish (XP) and Extra Polish with Accu-Shield (XPC).

NEW! Four popular Accu-Lite Aluminum Wheels are now available with the premium Accu-Armor Aluminum Wheel

Wheel Size	Part Number	Bolt Holes	Bolt Circle (mm)	Center Bore (mm)	Offset	Weight (lbs)	Max Load (lbs)	Max Inflation (psi)
24.5 x 8.25	41362	10	285.75	220	6.59"	54	7,400	131

The information in this document was accurate as of the date of release and pertains to the current version of Mack's Sales Tool. Mack Trucks, Inc. reserves the right to make changes in specifications, equipment or design, or to discontinue models or options without notice.



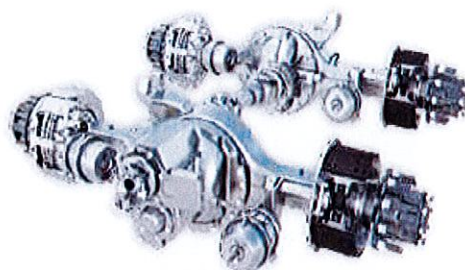
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PRODUCT INFORMATION

PID Code/Condition: 268-2021
Description: Meritor RT46-164EH
Models: ALL
Date: August 10, 2015

MERITOR TANDEM AXLES

For many applications, nothing less than a tandem axle will survive. And Meritor tandems not only survive, but thrive on the toughest, meanest, most demanding jobs. Year after year, Meritor tandems keep delivering the performance. And the goods. With legendary durability. Plus reduced maintenance and operating costs.



Sales Engineering

Mack Trucks, Inc.
 Allentown, PA 18103
 United States

Phone: 800 868 6225
 Fax: 610 351 8791

MackTrucks.com

14X EXCLUSIVE	Features/Options	Performance Benefits
	More robust Inter-Axle Differential (IAD)	20% larger than the competition's and with fewer parts; torque capacity up to 2050 lb. ft. in certain applications; improved pinion, differential and needle bearing design provides longer life and increased reliability
	2.64-7.17 vocation ratio range	Widest ratio range to match your application and specific engine manufacturer's recommendations
	DualTrac™ housing option	Effectively repositions the loading on wheel bearings similar to dual tire configurations when used with 0.07"-0.56" offset wheels
	High-torque gear design	Provides smoother and quieter operation, greater torque capacity and longer component life
	Rugged, single-piece carrier design	Supports precise gear alignment
	Meritor spindle design	Central Tire Inflation (CTI) system-ready
	Optional aluminum rear carrier and is available for RT-40-145A family only	Reduces weight to deliver additional payload capacity and greater fuel economy
	Broad range of gear ratios available	Enables end users to choose axles tailored to their needs, whether it be improved fuel economy, greater torque or maximum traction
	Lowest-maintenance tandem design available	Extends range up to 500,000 miles between lube changes
	Anti-lock braking system (ABS) and Automatic Traction Control (ATC) options	Provides greater braking control, shorter stopping distances and improved traction for both starting and higher-speed driveability
	Optional Driver-Controlled Differential Lock (DCDL)	Provides maximum traction and spinout protection under slippery conditions

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PRODUCT INFORMATION

Hypoid Single-Reduction Axle Specifications

RATINGS pounds (kg)	AXLE MODEL	GCW HIGHWAY pounds (kg)		STANDARD RATIOS	RING GEAR SIZE (PITCH DIAMETER) Inches (mm)	AXLE SHAFT SPLINE SIZE Inches (mm)	AXLE SHAFT DIAMETER Inches (mm)	HOUSING BOX SIZE Inches (mm)	WALL THICKNESS AT SPRING SEAT Inches (mm)	WHEEL-END SERIES	APPLICATIONS
		Max. 3% Grade (Hilly/Urban)	Max. 8% Grade (Paved)								
45,000 (20,884)	RT-45-160P	185,000 (83,900)	160,000 (72,640)	3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.89, 5.38, 5.63, 6.14, 6.43, 6.83, 7.17	18.0 (457.2)	2.35 (59.7) 46 Teeth	2.25 (57.2)		0.50 (12.7) 0.53 (13.0) Wide Track Only Available as RT-45-154 Series		GS, HS, RS
	RT-46-154P								0.63 (16.0)		

Applications Key: GS – General Service • HS – Heavy Service • RS – Restricted Service

See Applications section for specific vehicle references. Refer to publication TP7824 for complete axle specification details.

The information in this document was accurate as of the date of release and pertains to the current version of Mack's Sales Tool. Mack Trucks, Inc. reserves the right to make changes in specifications, equipment or design, or to discontinue models or options without notice.



SED

PRODUCT INFORMATION

PID Code/Condition: 186-1508 / 186AB6

Description: Mack AL461 Rear Air Suspension

Models: ALL

Date: October 14, 2016

MACK AL461 AIR SUSPENSION

- Superior Driver Comfort
- Exceptional Handling
- On and off-road applications

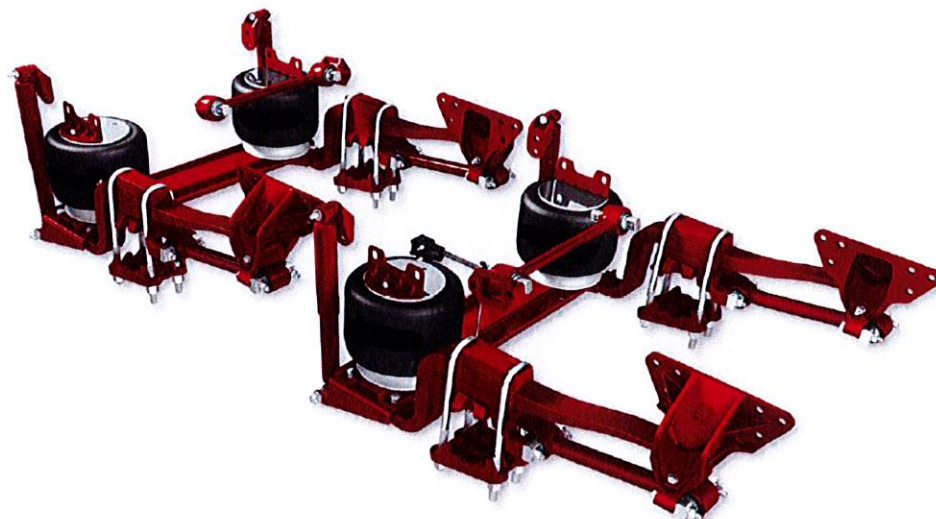
The 46,000 pound capacity AL461 air suspension is built to operate under off-highway conditions up to 25 percent of the time and is approved for use with one or more lift axles.

Sales Engineering

Mack Trucks, Inc.
Allentown, PA 18103
United States

Phone: 800 868 6225
Fax: 610 351 8791

MackTrucks.com



The information in this document was accurate as of the date of release and pertains to the current version of Mack's Sales Tool. Mack Trucks, Inc. reserves the right to make changes in specifications, equipment or design, or to discontinue models or options without notice.



SED

PRODUCT INFORMATION

Suspension Model	Suspension Capacity (lbs.)	GCW Approval (lbs.) ¹	GVW Approval (lbs.) ¹	Service: On/Off-Highway	Tractor	Truck	Suspension Weight (lbs.) ²	Site Rating (lbs.) ³
AL461	46,000	150,000	76,000	On/Off	Yes ⁴	Yes ⁵	937	50,000

Approved Applications

	AL461
General Freight (Van or Flatbed)	X
Refrigerated (No Swinging Meat)	X
Refrigerated (Swinging Meat)	X
Car Carrier	X
Chip Hauler	X
Concrete Pumper	X
Block Hauler	X
Wrecker	X
Dump	X
Logger	X
Oil Field	
Refuse (Transfer and Recycler)	X
Heavy Equipment Hauler	X
Mixer	X ⁷
Beverage	X
Doubles / Triples	X
Fire / Rescue	X

1. Contact Hendrickson or original equipment manufacturer for applications that may exceed GVW / GCW approval ratings.
2. Installed weight includes complete suspension, torque rods, axle and frame brackets and all hardware.
3. Operators using vehicles equipped with liftable push or tag axles must not exceed published ratings.
4. Not approved with trailer belly lift axles.
5. No add-on lift axles.
6. One more lift axles. Maximum 50,000-lb. load on suspension for site travel.
7. Not approved for straight truck applications.

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Product Information

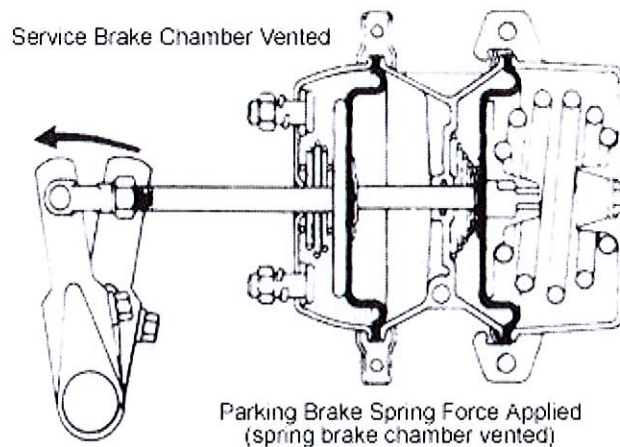


RBCS- Rear Brake Chamber Size (V1A)

Affects: All Models
Related: Rear Brakes (253)
Updated: February 9, 2018

Different size brake chambers are identified by numbers which specify the effective area of the diaphragm. A type 30/30 brake chamber has 30 square inches effective area in each chamber.

The rear brake air chamber is more complicated because it serves two purposes. One part of this dual chamber is called the spring brake chamber and the other part is called the service brake chamber. The service brake chamber is what activates when you step on the tractor brake pedal. The spring brake chamber is what is charged to release the spring brakes.



Spring brakes were designed so there would always be a fail-safe method of stopping an air brake vehicle, if for some reason, all air supply pressure were suddenly lost while the vehicle is in motion. In the diagram above, the heavy duty spring in the right hand compartment (spring brake chamber) forces the push rod to the left which engages the slack adjuster when there is no air pressure in the spring brake chamber.

This forms the emergency brake action to stop a vehicle in motion should the air supply fail. Release of air pressure in the spring brake chamber is what takes place when you set your air parking brakes. The parking brake valve on the cab dash, releases the air pressure in the spring brake chambers, and the powerful spring applies hundreds of pounds of brake force on the push rod, thereby rotating the slack adjuster and setting the brakes.

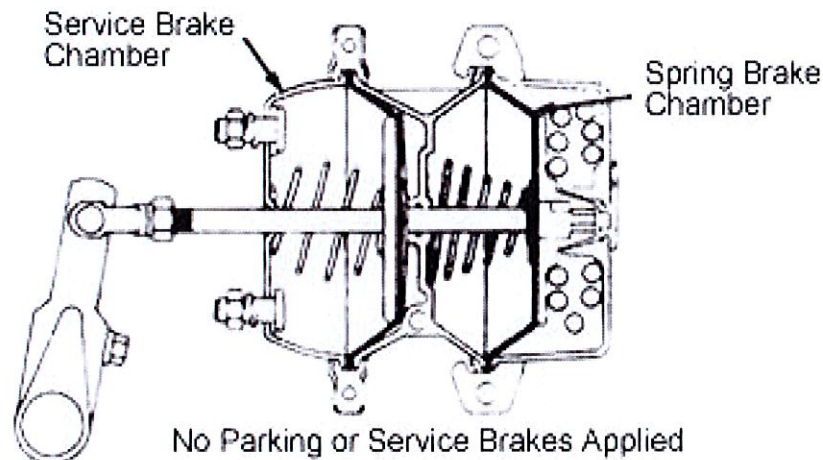
Product Information



RBCS- Rear Brake Chamber Size (V1A)

Affects: All Models
Related: Rear Brakes (253)
Updated: February 9, 2018

In the diagram below, the spring brake chamber has been pressurized, and the spring brake diaphragm has compressed the heavy duty spring, which allows the push rod to release the pressure on the slack adjuster arm, which releases the parking brake.



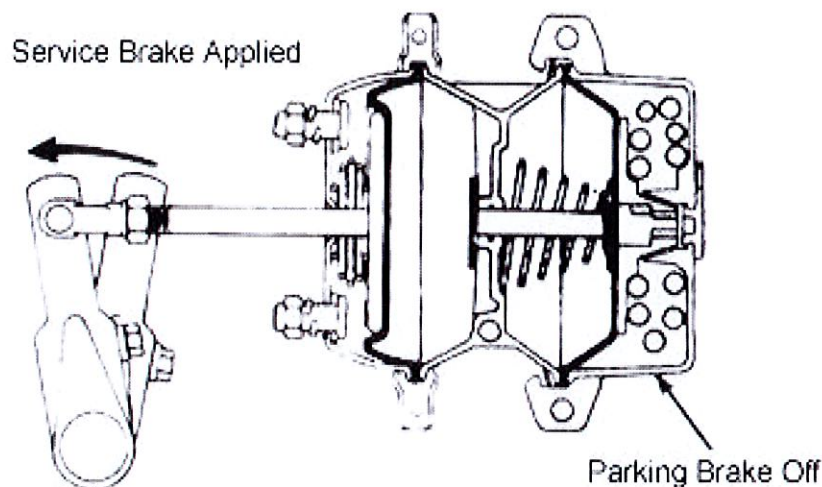
When you release the parking brake, you actually pressurize the spring brake chamber. Now the service brake chamber can move the push rod to the left when the brake pedal is pressed. Trailers also have spring brakes which function just like the tractor rear wheel spring brakes. The trailer service brake chambers can be charged when the truck foot brake is applied, or when the trailer hand brake is applied.

Product Information



RBCS- Rear Brake Chamber Size (V1A)

Affects: All Models
Related: Rear Brakes (253)
Updated: February 9, 2018



The diagram above shows the service brake chamber when full service braking action is applied. Notice how the left hand chamber air on its right side has pushed the chamber diaphragm to the left which forces the push rod to the left also.

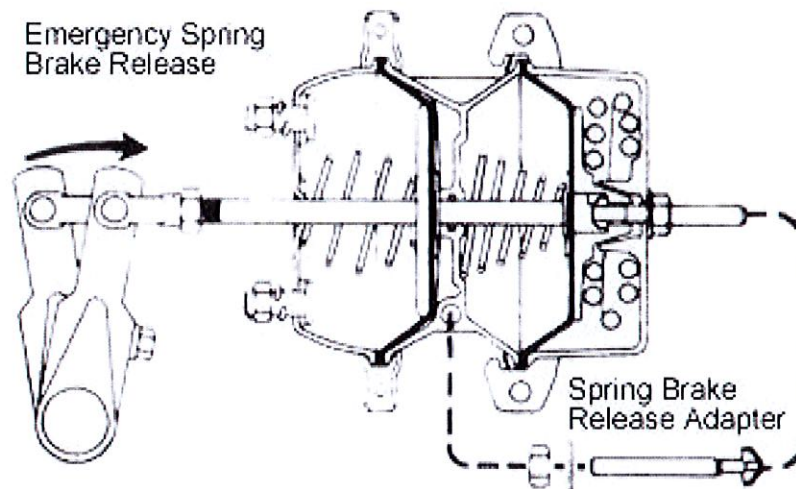
What is not shown in this diagram is that when the service brake chamber moved the push rod to the left, the push rod moved away from the spring brake chamber diaphragm because it is not fastened to the spring brake diaphragm. The spring brake diaphragm only pushes on the push rod (much like you would push the end of a broom handle with the palm of your hand), so the push rod is free to move to the left with the service brake chamber when service brake action is required.

Product Information



RBCS- Rear Brake Chamber Size (V1A)

Affects: All Models
Related: Rear Brakes (253)
Updated: February 9, 2018



There can be emergency situations where one or more service brake chambers cannot be pressurized for what ever reason. When this situation arises, most spring brake chambers have a release bolt mounted on the outside of the spring chamber housing.

You can override the spring brake feature by installing this service bolt, and using a wrench to draw the spring brake diaphragm to the right, which compresses the heavy duty spring and releases the spring brake force on the push rod. Usually, you insert the bolt and twist it 1/4 turn to lock it into place, then you tighten the nut. In this configuration, that spring brake is disabled, but the service brake can still work. This is only to be used for emergency situations, because it disables the protective spring brake feature.

Product Information



RBADJ-AM Slack Adjuster, Automatic, Meritor, Rear

Affects: Anthem, Granite, Pinnacle
Related: Rear Axle (268), Rear Brakes (253)
Updated: May 18, 2020

Meritor's unique design keeps brakes in constant adjustment while eliminating the need for frequent under-the-truck brake adjustments. This reduces brake maintenance costs and vehicle safety inspection citations while also optimizing brake performance.

Performance advantages:

- Maximum reliability and robustness
- Lowest cost and lightest weight ASA on the market
- Only ASA that adjusts on chamber stroke
- 25,000 in-lbs. torque capacity
- Pawl design simplifies service



Features and Benefits

- Pull pawl design requires fewer moving parts, enhancing durability and reliability
- Fully sealed to resist internal contamination for longer life
- Industry's lightest weight ASA, which increases payload and camshaft bracket life
- Self-contained design doesn't require special grounding straps, simplifies installations
- Keeps brakes properly adjusted for shorter stopping distances and longer lining life
- Grease purge to camshaft resists binding
- Ratchet type adjuster minimizes internal wear which results in robust design and maximizes reliability
- Simple to manually adjust with no anti-reverse springs to overcome
- Stroke sensing design

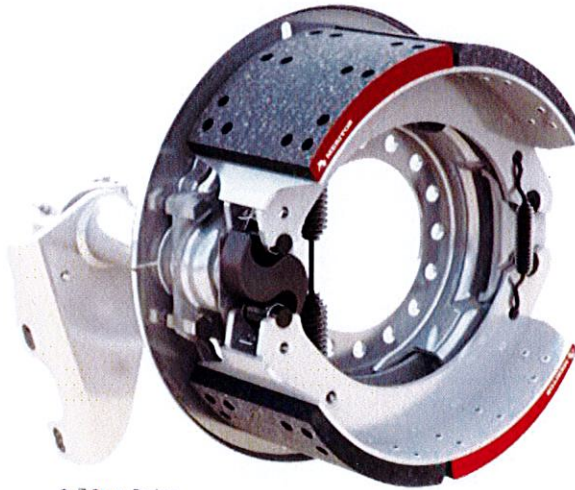
Automatic Slack Adjuster Specifications	
Slack Length (inches)	5.0, 5.5, 6.0, 6.5, 7.0
Arm Configuration	Straight
Camshaft Spline Size and No.	1.50" - 10 1.50" - 28 1.625" - 37
Clevis Thread	0.625"-18 for type 20,24,30,36 chambers

Product Information



253- Meritor Q+ Rear Drum Brakes (253)

Affects: All Models
Related: Rear Axle (268), Rear Suspension (186)
Updated: February 12, 2018



Q+™ Drum Brakes

Premium Stopping Performance

Engineered to assist vehicle manufacturers in meeting FMVSS-121 stopping distance requirements, the Meritor Q+™ drum brake system remains the industry standard. Q+ brakes offer exceptional durability comparable to disc brakes.

Performance advantages:

- Versatility to perform in a variety of applications, including linehaul, regional haul and vocational
- Thicker lining blocks increase service life and mileage between relines
- Specially designed S-cam and heavy-duty shoe return spring delivers additional brake shoe travel for full wear
- Improved camshaft bushing contributes to longer service life

Product Information



253- Meritor Q+ Rear Drum Brakes (253)

Affects: All Models
Related: Rear Axle (268), Rear Suspension (186)
Updated: February 12, 2018

Meritor Q+ Cam Brakes

Performance, serviceability, dependability, simple operation and proven design have made the Meritor Q+ the top choice for drum brake systems.

Features and Benefits

- Optimized lining geometry for uniform wear and consistent performance, enhanced camshaft bushing material, double anchor pin design, and extended lube option minimize maintenance and downtime
- Advanced friction material helps meet revised stopping distance regulation without the use of air disc brakes
- Best-in-class e-coat corrosion protection standard on all Q+ brake shoes
- PlatinumShield™ coating technology is an available option for highly corrosive environments and duty cycles, delivering premium protection against rust-jacking
- Stamped Steel Spider Q+ drum brake option offers weight savings of 6.5 lbs. per brake without sacrificing durability or performance, which improves fuel efficiency and maximizes payload
- Patented quick-change shoe also minimizes downtime
- Most widely used drum brake in the industry means superior support in the aftermarket for parts availability, core return values and service accessibility
- Wider brake shoe packages for improved stopping performance and improves lining life

Product Information



464-3000 Quarter Fenders, Stainless Steel (464AA5)

Affects: Tractors

Updated: January 30, 2018

Shown on Right Side:



Shown on Left Side:





SED

PRODUCT INFORMATION

PID Code/Condition: 317-0003
MSS Sales Code: 5RXA6X
Description: Back-Up Alarm ECCO 575
Models: ALL
Date: June 8, 2015

For 40 years ECCO has designed and manufactured some of the world's most effective and innovative visual and audible warning equipment for commercial vehicles, providing superior protection and enhanced safety both on job sites and out on the road.

Compact size and universal mounting bracket maximizes location options, sealed in epoxy for protection against dust, moisture, and vibration.

Sales Engineering

Mack Trucks, Inc.
Allentown, PA 18103
United States

Phone: 800 868 6225
Fax: 610 351 8791

MackTrucks.com

Part No:	575
Color:	
Category:	Reversing Safety
Product Type:	Back-Up Alarms
Series:	500 Series



Specification

Title	Value	
Voltage	12-24 VDC	V
Volume	107	dB
Type	Speaker	
Approval	SAE J994 Type B (AMECA), UL, CE, e	✓
Temperature Range	-40F to +185F	-
Amps	1.3	A

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SED

PRODUCT INFORMATION

Sales Code: 330-3332 / 330AG8

Description: Holland FW35, Air, Blocked, Left Hand Release

Date: May 10, 2016

Sales Engineering

Mack Trucks Inc.
2402 Lehigh Parkway South
Allentown, PA 18103

Phone: 800-868-6225

Fax: 610-351-8791

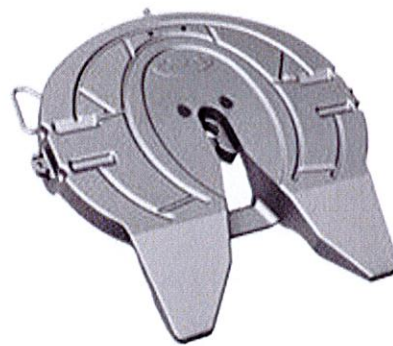
Email: sales.engineering@macktrucks.com

HOLLAND FW35

The world's most popular fifth wheel.

LOAD CAPACITY: 55,000 lbs. Vertical Load

PULL CAPACITY: 150,000 lbs. Drawbar Pull



HOLLAND FW35 SERIES

HOLLAND FW35

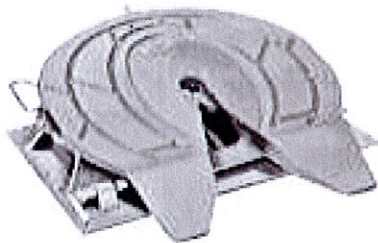
The FW35 Series is the world's most versatile and proven fifth wheel. This premium fifth wheel is designed for years of guaranteed performance, and has been the foundation for revolutionary new ideas that expand fifth wheel function and value. Available in a variety of models, including the FW31 NoLube™, the FW35 meets the needs of the transportation industry for today and beyond.



SED

PRODUCT INFORMATION

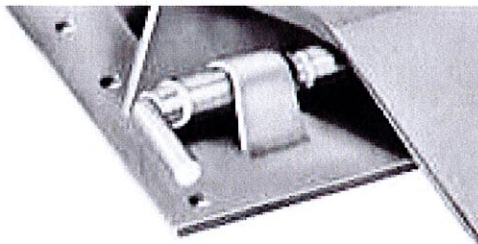
No Tilt



Holland No-Tilt is available on both stationary and sliding mounting brackets.

Holland No-Tilt is designed to be convertible from a standard articulating fifth wheel to a rigid "no-tilt" fifth wheel when required. In applications requiring a "no-tilt" fifth wheel, the oscillation (articulation) is provided by other means (eg. An articulating upper

Features and Benefits



Locking Shaft

Using an easy-to-use locking shaft the No-Tilt is converted from an articulating fifth wheel to a rigid "no-tilt" fifth wheel.

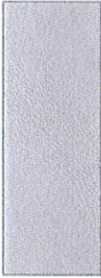















PRODUCT INFORMATION

004- INTERIOR TRIM LEVELS

Updated: July 5, 2023

Interior Trim Overview

COMFORT Interior Trim (allows various seat and seat covering options)	Steel Gray (0041110) Available with All Models	 Steel Gray Interior Trim	 Gunmetal Dash & Door Accents	 Charcoal Map Pocket with Charcoal Insert
	Sierra Tan (0041111) Available with Day Cab Only	 Sierra Tan Interior Trim	 Gunmetal Dash & Door Accents	 Charcoal Map Pocket with Charcoal Insert
PREFERRED Interior Trim (allows various seat and seat covering options)	Steel Gray (0042110) Available On All Models	 Steel Gray Interior Trim	 Satin Aluminum Dash & Door Accents	 Charcoal Map Pocket with Charcoal Insert
	Sierra Tan (0042111) Available with Day Cab Only	 Sierra Gray Interior Trim	 Satin Aluminum Dash & Door Accents	 Charcoal Map Pocket with Charcoal Insert
ELITE Interior Trim (allows various seat and seat covering options)	Steel Gray (0043110) Available On 70" Sleeper Only	 Steel Gray Interior Trim	 Woodgrain Dash & Door Accents	 Charcoal Map Pocket with Dark Saddle Insert



004- INTERIOR TRIM LEVELS

Updated: July 5, 2023

COMFORT INTERIOR TRIM
Steel Gray with Gunmetal Accents
(available with all models)



PREFERRED INTERIOR TRIM
Steel Gray with Satin Aluminum Accents
(available with all models)



ELITE INTERIOR TRIM
Steel Gray with Woodgrain Accents
(available with 70" sleeper only)



COMFORT INTERIOR TRIM
Sierra Tan with Gunmetal Accents
(available with day cab only)



PREFERRED INTERIOR TRIM
Sierra Tan with Satin Aluminum Accents
(available with day cab only)



COMFORT INTERIOR TRIM
Steel Gray with Gunmetal Accents



PREFERRED INTERIOR TRIM
Steel Gray with Satin Aluminum Accents



COMFORT INTERIOR TRIM
Sierra Tan with Gunmetal Accents



PREFERRED INTERIOR TRIM
Sierra Tan with Satin Aluminum Accents



ELITE INTERIOR TRIM
Steel Gray with Woodgrain Accents





004- INTERIOR TRIM LEVELS

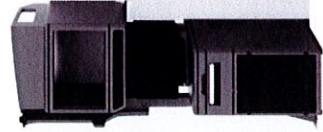
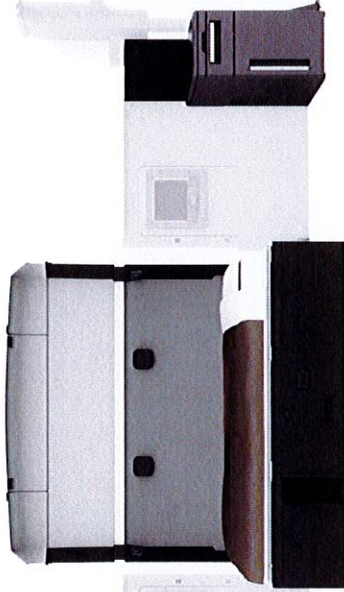
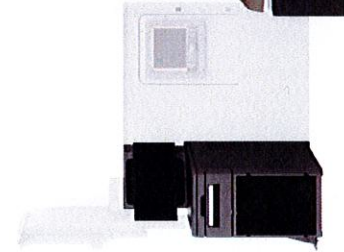
Updated: July 5, 2023

Sleeper Environment Overview

(bunk and storage options shown below may vary between 48-inch and 70-inch sleepers)

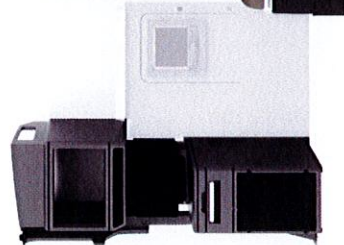
COMFORT & PREFERRED STEEL GRAY INTERIOR TRIM (all sleeper models)

Shown with single bunk and lower storage



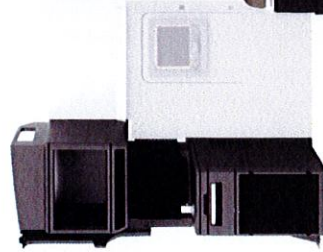
COMFORT & PREFERRED STEEL GRAY INTERIOR TRIM (all sleeper models)

Shown with double bunk and full storage



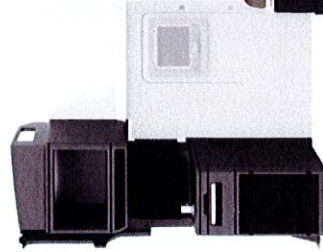
COMFORT & PREFERRED STEEL GRAY INTERIOR TRIM (all sleeper models)

Shown with single bunk and full storage



ELITE STEEL GRAY INTERIOR TRIM WITH DARK SADDLE WALL COVERING (70-inch sleeper only)

Shown with single bunk and full storage



Product Information

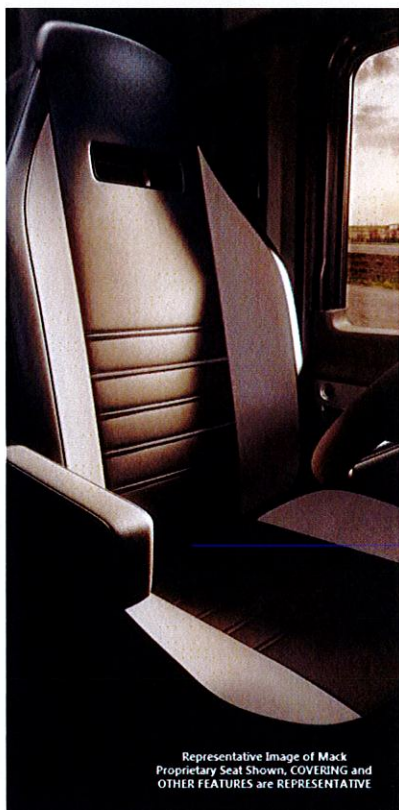


196-3140 Driver Seat (196ABQ)

Affects: Conventional Models

Related: Interior Trim (004)

Updated: December 6, 2017



196-3140 FEATURES	MODEL	MODEL
FEATURE	DAY CAB	SLEEPER
SEAT TYPE	HIGH BACK	HIGH BACK
UPHOLSTERY	VINYL/CLOTH	VINYL/CLOTH
SEAT BACK	CARPET	CARPET
BASE	AIR	AIR
SHOCK ABSORBER	STD. NON-ADJUSTABLE	STD. NON-ADJUSTABLE
SWIVEL	N/A	N/A
BOLSTER (THIGH)	STANDARD	STANDARD
LUMBAR (# OF CHAMBERS)	4	4
HEAT	N/A	N/A
DUST COVER	OPTIONAL	OPTIONAL
ARM REST	REQUIRED	REQUIRED
HEAT	N/A	N/A

Product Information



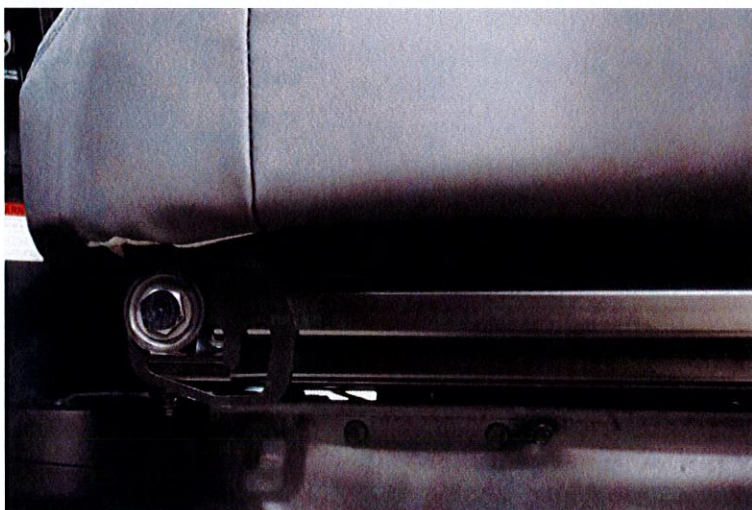
196-3140 Driver Seat (196ABQ)

Affects: Conventional Models

Related: Interior Trim (004)

Updated: December 6, 2017

Bolster Adjustment:



Lumbar Switches:



Product Information



197-3140 Passenger Seat, (197ABQ)

Affects: Conventional Models

Related: Interior Trim (004)

Updated: December 6, 2017



197-3140 FEATURES	MODEL	MODEL
FEATURE	DAY CAB	SLEEPER
SEAT TYPE	HIGH BACK	HIGH BACK
UPHOLSTERY	VINYL/CLOTH / MORDURA	VINYL/CLOTH
SEAT BACK	CARPET	CARPET
BASE	AIR	AIR
SHOCK ABSORBER	STD. NON-ADJUSTABLE	STD. NON-ADJUSTABLE
SWIVEL	N/A	N/A
BOLSTER (THIGH)	STANDARD	STANDARD
LUMBAR (# OF CHAMBERS)	4	4
HEAT	N/A	N/A
DUST COVER	OPTIONAL	OPTIONAL
ARM REST	OPTIONAL	OPTIONAL
HEAT	N/A	N/A

Product Information



197-3140 Passenger Seat, (197ABQ)

Affects: Conventional Models

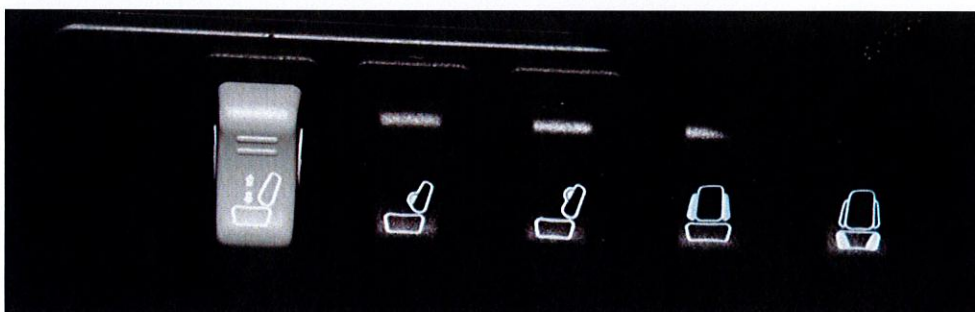
Related: Interior Trim (004)

Updated: December 6, 2017

Dust Cover:



Lumbar Switches:

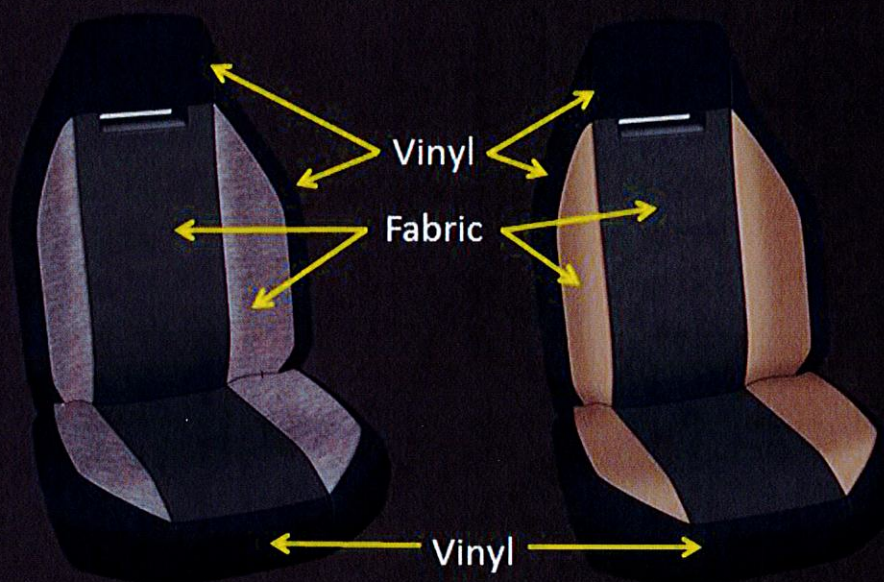


Product Information



MAP-2003	Seat Covering – Driver – Tan - Vinyl/Cloth Mix (MAPC1X)
MAP-2004	Seat Covering – Driver – Grey - Vinyl/Cloth Mix (MAPC2X)
Affects:	Anthem, Pinnacle, Granite
Related:	Interior Trim (004)
Updated:	May 30, 2017

INTERMEDIATE SEATS VINYL WITH FABRIC INSERTS



DRIVER SEAT FEATURES INTERMEDIATE

Seat

- Cloth and vinyl cover
- High back
- Headrest cutout
- Adjustable four chamber lumbar support
- Adjustable seat and back bolster support
- Inboard arm rest (optional)

Seat Base

- Air suspension
- Fore-aft slide/isolator
- Recline angle
- 3 position seat tilt/extension
- Inboard seat controls
- Optional
 - Skirt
 - Swivel base (sleepers only)
(outboard controls with swivel base)

Product Information



CCX - Secondary Gauge Packages

Affects: Anthem, Granite, Pinnacle

Updated: September 8, 2020

Effective with the 22A price book, the CCX family of secondary gauge packages will be restructured to:

- **Change 1:** Add a standard feature to provide the customer with the maximum available component sensors. The following component sensors will become standard on all Anthem, Granite and Pinnacle models and all will be visible through Co-Pilot if an optional secondary gauge package is not selected.
 - Engine oil temperature
 - Transmission oil temperature
 - Axle oil temperature
 - Pyrometer
 - Air suspension pressure (if equipped with air suspension)
- **Change 2:** Include the optional 2GP- sales codes in the CCX family selections for up to four dash-mounted analog gauges. Optional gauge packages can include:
 - Engine oil temperature
 - Transmission oil temperature
 - Boost pressure
 - Pyrometer
 - Brake application pressure
 - Air cleaner restriction

2GP- Analog Secondary Gauge Packages (Cab Interior A-G)

Sales Code	Component	
2GP-BTPA	<ul style="list-style-type: none">• Transmission Oil Temperature• Brake Application Pressure	<ul style="list-style-type: none">• Boost Pressure• Pyrometer
2GP-ETPA	<ul style="list-style-type: none">• Engine Oil Temperature• Transmission Oil Temperature	<ul style="list-style-type: none">• Pyrometer• Brake Application Pressure
2GP-ETPB	<ul style="list-style-type: none">• Engine Oil Temperature• Transmission Oil Temperature	<ul style="list-style-type: none">• Pyrometer• Boost Pressure
2GP-ETPR	<ul style="list-style-type: none">• Engine Oil Temperature• Transmission Oil Temperature	<ul style="list-style-type: none">• Pyrometer• Air Cleaner Restriction

Product Information



CCX - Secondary Gauge Packages

Affects: Anthem, Granite, Pinnacle

Updated: September 8, 2020

2GP- Analog Gauges Location on Dash

Position	Sales Code			
	2GP-ETPB	2GP-ETPR	2GP-ETPA	2GP-BTPA
1	Engine Oil	Air Restriction	Engine Oil	Boost Pressure
2	Transmission Oil	Engine Oil	Transmission Oil	Transmission Oil
3	Pyrometer	Transmission Oil	Pyrometer	Pyrometer
4	Boost Pressure	Pyrometer	Brake Application	Brake Application



Product Information

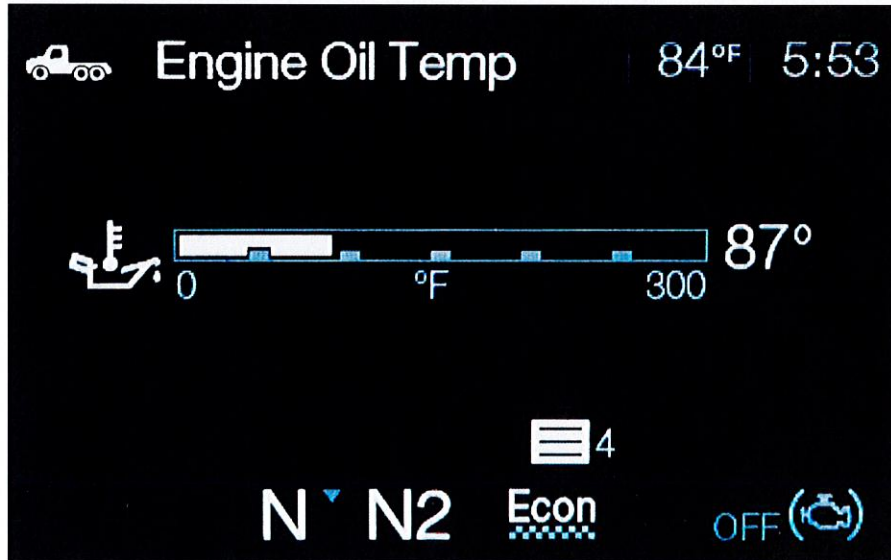


CCX - Secondary Gauge Packages

Affects: Anthem, Granite, Pinnacle

Updated: September 8, 2020

All digital gauges displayed in Co-Pilot are designed as this example showing engine oil temperature



Selecting "Without Secondary Gauge Package" adds a small storage area above dash switches.



Product Information

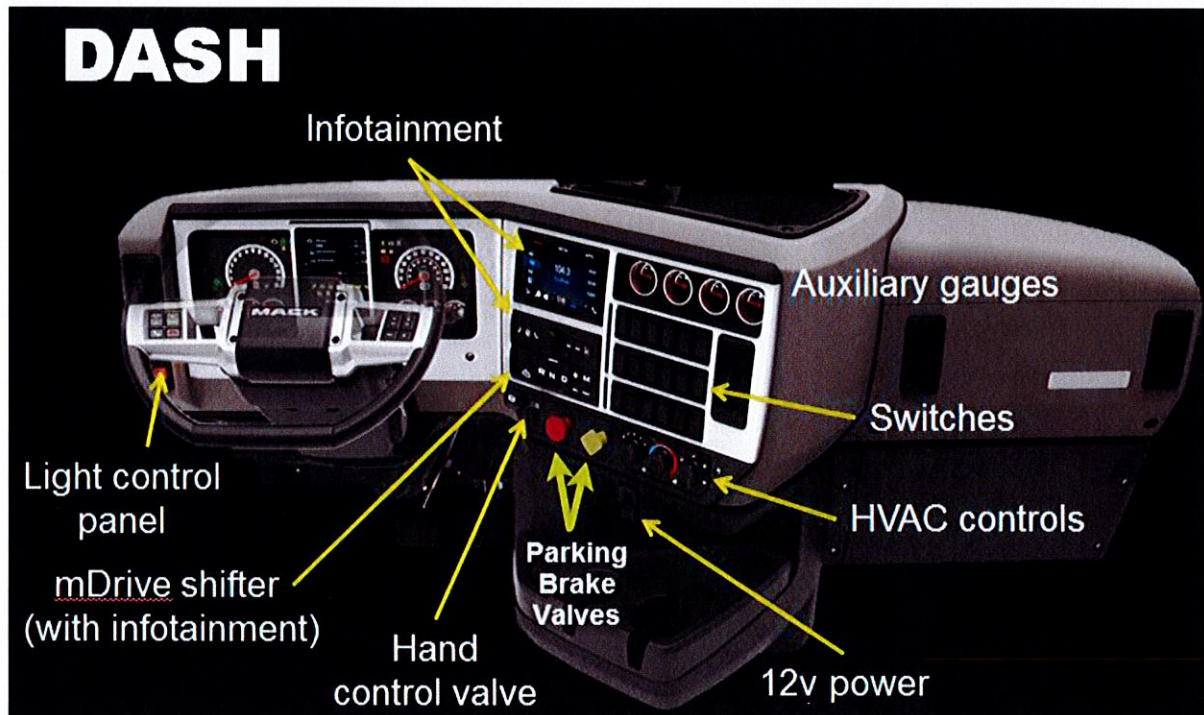


PBV-YR Parking Brake Valve (1JAABX)

Affects: Anthem, Pinnacle, Granite

Related: Interior Trim (004)

Updated: May 30, 2017



Product Information



1746111 Heavy Duty AM/FM/WB Stereo Receiver with Front-panel USB Port and Integrated Bluetooth®

Affects: Anthem, Granite, Pinnacle
Related: Audio Accommodation (174)
Updated: May 20, 2020



- **Heavy-duty design:** Made for a commercial vehicle driver by having larger buttons and a heavy-duty construction for tougher environments.
- **Weather band (WB):** Offers National Weather Radio Broadcasts from over 1,025 locations throughout the United States on seven VHF/FM frequencies to provide continuous weather information 24-hours a day.
- **Built-in Bluetooth®:** Selectable between audio streaming and / or hands-free phone operation - up to 10 devices can be easily stored in the radio memory for fast pairing.
- **Front-panel USB port:** Gives a direct-connect location for memory devices with USB interface to play stored music and / or charge the device and have iPod® control through the radio.
- **Range:** 162 .400 MHz - 162 .550 MHz
- **Front auxiliary input:** Easy access to plug in a smart device and enjoy your digital music library through the vehicle's speakers
- **Rear Auxiliary input:** Provides an auxiliary terminal for permanent hard wire to the rear of the radio.
- **Quartz alarm clock:** Built-in quartz alarm clock with one-hour timer.
- **Output power:** 18 W x 4 Channels.
- **Sound quality (EQ):** Select the sound type (Pop, Rock, Country, News, Jazz, Classical or Manual) to improve the dynamic range.
- **Mechless:** No compact disc (CD) player.
- **VF dot matrix display:** Three-line display that maximizes the viewing area on the front of the radios allowing for more information on the screen and minimizes the need to scroll.
- Separate bass, mid, treble, balance and fader controls.
- 6 AM and 12 FM radio preset buttons.
- Auto-store memory.
- Back-lit display lighting (blue)
- PA function



SED

PRODUCT INFORMATION

Sales Engineering

Mack Trucks, Inc.
Allentown, PA 18103
United States

Phone: 800 868 6225
Fax: 610 351 8791

MackTrucks.com

PID Code/Condition: 152-9045

Description: Bulldog Stylized Mirrors, RH and LH Heated, Motorized, and Illuminated with Integral Convex Mirror

Models: All Conventionals

Date: August 7, 2015

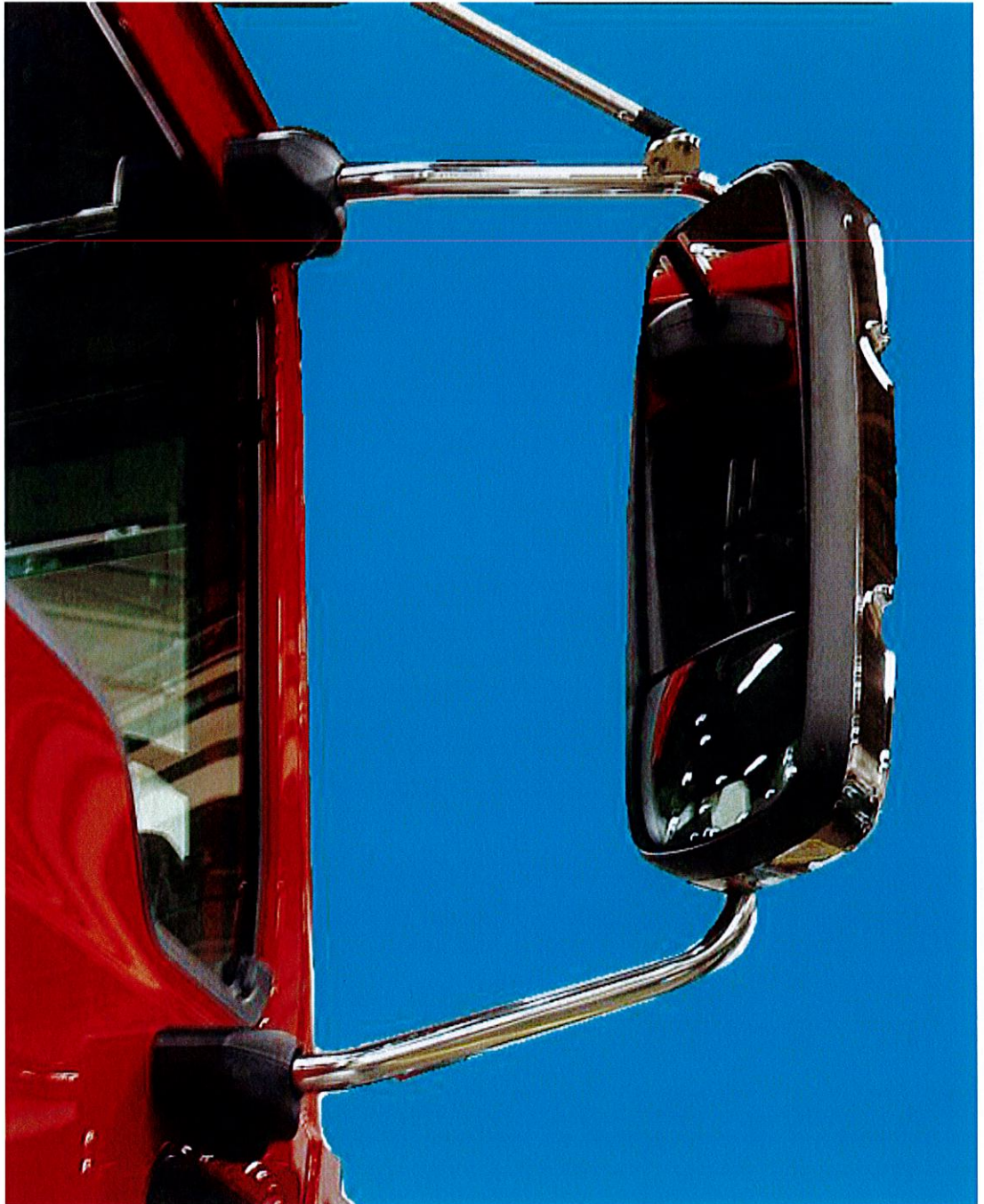


The information in this document was accurate as of the date of release and pertains to the current version of Mack's Sales Tool. Mack Trucks, Inc. reserves the right to make changes in specifications, equipment or design, or to discontinue models or options without notice.



SED

PRODUCT INFORMATION



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Product Information



157-9001 Exterior Sunvisor, Stainless Steel (157037)

Affects: Conventional Models

Related: Sleeper Box (016), Roof Fairing (159)

Updated: April 24, 2018

Stainless Steel Exterior Sun Visor shown on Anthem Day Cab



Product Information



587-0108 Premium Black Exterior Grab Handles, Interior Grab Handles are also Black (5870G7)

Affects: Anthem
Related: Model Ordered
Updated: September 1, 2017

EXTERIOR FEATURES

GRAB HANDLES

Extruded black finish aluminum exterior grab handle provides improved ergonomics



Product Information



587-0108 Premium Black Exterior Grab Handles, Interior Grab Handles are also Black (5870G7)

Affects: Anthem
Related: Model Ordered
Updated: September 1, 2017

Doors:



RH Windshield Post:





SED

PRODUCT INFORMATION

Sales Engineering

Mack Trucks, Inc.
Allentown, PA 18103
United States

Phone: 800 868 6225
Fax: 610 351 8791

MackTrucks.com

PID Code/Condition: D0C-0001
Description: Rear Wall Storage Pouch
Models: Conventionals
Date: January 22, 2016



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PRODUCT INFORMATION



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STANDARD CHASSIS WARRANTY CERTIFICATE



Mack Trucks warrants certain individual components of the new Mack truck to be free from defects in material and workmanship under normal use and service up to the periods as specified, provided all Mack Trucks' maintenance and inspection requirements are followed. See your local authorized Mack dealer for recommended maintenance and inspection procedures. All warranty periods are calculated from date in service of the vehicle. All coverage is 100% for parts and labor subject to the qualifications, limitations, and exclusions as noted.

**LIMITATIONS AND EXCLUSIONS TO THIS WARRANTY APPEAR ON THE REVERSE SIDE OF THIS CERTIFICATE.
THESE LIMITATIONS AND EXCLUSIONS ARE IMPORTANT AND MUST BE READ AND UNDERSTOOD.**

This warranty applies to **Model Year 2024 trucks**, AN, GR, LR, PI, TE models, manufactured by Mack Trucks, operated in the United States and Canada with **EPA 17 and newer engines**. Specific coverage is based on the application and weight class as described in the following chart:

	Standard NORMAL DUTY	Standard HEAVY DUTY	Standard SEVERE DUTY
Typical Vocations	Line / Long Haul, Short Haul, or Pickup & Delivery	Heavy Line Haul, Construction , Refuse, Fire or Rescue Service	Heavy Construction, Heavy Refuse, Off-Road, Heavy Haul, Mining, Logging, or Oil Field
Weight Class Qualifications	Vehicle must have GVWR ≤ 63,000 lbs. (≤ 28 metric tons) or GCWR ≤ 110,000 lbs. (≤ 50 mt.)	Vehicle must have GVWR ≤ 80,000 lbs. (≤ 36 mt.) or GCWR ≤ 143,000 lbs. (≤ 65 mt.)	Vehicle must have GAWR > 52,000 lbs. (> 23.5 mt.) or GVWR > 80,000 lbs. (> 36 mt.) or GCWR > 143,000 lbs. (> 65 mt.)
Basic Coverage *	12 months or 100,000 miles (160,934 km)	12 months or 100,000 miles (160,934 km)	12 months or 100,000 miles (160,934 km)
Chassis Towing	Towing/Road Service coverage is limited to 90 days or 5,000 miles (8047 km), whichever occurs first, limited to the truck (less trailer) and to a single tow per incident to the nearest authorized Mack Trucks service center. Charges in excess of \$1,000 are not covered unless Mack OneCall™ service is contacted and approves additional amounts prior to tow.		Not Applicable
Air Conditioning	Air conditioning (sealed system only) is covered for 12 months with no mileage limitation.		
Engine / Emission	Not covered under this warranty certificate. See respective engine manufacturer's warranty certificate. See paragraph 19 on reverse side.		
Transmission, Driveline, Rear Axle, Front Non-Drive Steer Axle	36 months or 350,000 miles (563,270 km) Covered Components are as follows: • Manual Transmission – Transmission assembly • Driveline – Bearings, hangers & shafts • Rear Axle – Differential carrier assembly & axle housing • Front Non-Drive Steer Axle – Axle beam, steering knuckle, & tie rod		12 months or 100,000 miles (160,934 km)
	Allison Automatic Transmissions are not covered under this warranty certificate. See paragraph 19 on reverse side.		
Mack Carrier & Axle Housing	60 months or 750,000 miles (1,207,008 km)	60 months or 500,000 miles (804,672 km)	24 months or 100,000 miles (160,934 km)
mDRIVE™ Transmission	60 months or 750,000 miles (1,207,008 km) mDRIVE™ and mDRIVE™ HD	mDRIVE™: 36 months or 250,000 miles (402,336 km); mDRIVE™ HD: 36 months with no mileage limitation	12 months or 100,000 miles (160,934 km); mDRIVE™ HD: 24 months with no mileage limitation
mDRIVE™ Clutch	36 months or 350,000 miles (563,270 km) mDRIVE™ and mDRIVE™ HD	36 months or 250,000 miles (402,336 km) mDRIVE™ and mDRIVE™ HD	mDRIVE™: 12 months or 100,000 miles (160,934 km); mDRIVE™ HD: 24 months or 250,000 miles (402,336 km)
mDRIVE™ Transmission Towing	Towing/Road Service on warrantable transmission failures is covered to 24 months or 250,000 miles (402,336 km) whichever occurs first, limited to the truck (less trailer), and to a single tow per incident to the nearest authorized Mack Trucks service center. Charges in excess of \$1,000 are not covered unless Mack OneCall™ service is contacted and approves additional amounts prior to tow.		Not Applicable
Trunnion Bracket	36 months or 300,000 miles (482,803 km) Limited to Trunnion Bracket & Spindle, Suspension Trunnion (Except Bushings)		12 months or 100,000 miles (160,934 km) (same restrictions as Normal & Heavy)
Cab Structure	60 months or 500,000 miles (804,672 km)	24 months or 200,000 miles (321,869 km)	12 months or 100,000 miles (160,934 km)
Internal Cab Corrosion	60 months or 500,000 miles (804,672 km)	60 months or 500,000 miles (804,672 km)	60 months or 500,000 miles (804,672 km)
	Covered only where metal is perforated from the inside to the outside. See paragraph 18 on the reverse side.		
Frame Rail / Crossmembers	60 months or 500,000 miles (804,672 km) Anthem/Pinnacle Models Only: 72 months or 750,000 miles (1,207,008 km)	36 months or 300,000 miles (482,803 km) Granite Model only: 60 months or 500,000 miles (804,672 km)	12 months or 100,000 miles (160,934 km)
Noise Emission	LIFE OF VEHICLE: Mack Trucks warrants to the first purchaser of this vehicle for purposes other than resale, and to each subsequent purchaser, that this vehicle was designed, built and equipped to conform, at the time of sale to such first purchaser, with all applicable U.S. EPA noise control regulations. This warranty is not limited to any vehicle particular part, component, or system of the vehicle. Defects in the design, assembly, or any part, component or system of the vehicle, which at the time of sale to such first purchaser, caused noise emission levels to exceed Federal standards, are covered by this warranty for the life of the vehicle. EXCLUSIONS: Failures which arise as a result of tampering rather than from defects in the design, assembly, or any part, components, or system of the vehicle are not covered by this warranty.		

*Covered for 30 Days: Fluorescent Lights or Ballast, Light Bulbs, Fuses, Wiper Blades, and All Filters (oil, fuel, air, etc.).

Covered for 90 Days: Loose Fasteners, Leaking Fittings, or Loose Hose Clamps.

THESE LIMITATIONS AND EXCLUSIONS ARE IMPORTANT AND MUST BE READ AND UNDERSTOOD.

LIMITATIONS – Mack Trucks' obligation is limited to, at its sole option, repair or replacement of parts which are acknowledged by it to be defective. The defective parts or assemblies replaced shall become the property of Mack Trucks. Warranty repairs performed by an authorized Mack dealer in accordance with the terms of the warranty set forth herein are free of charge. Warranty consideration can only be given if the deficiency is brought to the attention of an authorized Mack dealer upon discovery and the vehicle must be made available, in a timely fashion during the coverage period, for repair.

EXCLUSIONS:

1. **REPAIR:** In the case of acknowledged defective Covered Parts, exchange with factory remanufactured parts may occur. Warranty repairs do not constitute an extension of any warranty period for any vehicle, component or part.
2. **DAMAGES:** Damages due to misapplication, misuse, accidents, negligence, improper operations, alterations, storage or transport, operation at excessive speeds, loading beyond the factory rated load capacity, failure to follow Mack Trucks' recommended inspection, maintenance, and service procedures, and improper or insufficient maintenance services are not covered.
3. **PROGRESSIVE DAMAGE:** Damages due to failure of operator to take reasonable precautions to mitigate damage are not covered. Damages to a Covered Part due to failure of non-covered part are not covered. Coverage is limited to failure of a Covered Part directly causing failure of a non-covered part, where reasonable precautions were taken to mitigate damages.
4. **APPLICATION:** The selling dealer is responsible for designating the correct application and/or specification for a vehicle sold to a customer. Damages due to misapplication, including but not limited to, failures of component parts of vehicles being operated in excess of factory rated load capacities, or the use of a vehicle, component or part for a purpose for which it was not intended are not covered.
5. **ALTERATIONS:** Any vehicle, component or part repaired, altered, or inspected in any way, so as to adversely affect, in Mack Trucks' sole judgment, its stability, durability, or reliability, is not covered.
6. **NON-ORIGINAL EQUIPMENT:** Any part of the vehicle that fails, malfunctions, or does not perform as a result of improper conversion or installation of bodies or equipment by other manufacturers or suppliers is not covered.
7. **MAINTENANCE AND PARTS CONSUMED:** Maintenance and inspection requirements found in the Operator's Manuals and service manuals/instructions, including, but not limited to, engine tune-up, fuel system cleaning, replacement of lubricants and filter elements, adjustments of the engine injection pump/transmission/brakes/linkages, as well as diagnosis, test time and all other adjustments must be followed and are not covered. Parts which are normally consumed or worn out during the vehicle's normal service life and customarily replaced during usual maintenance service, including, but not limited to, mud flaps and brackets, brake linings, clutch brake, and clutch linings, are not covered.
8. **PERFORMANCE COMPLAINTS:** Performance complaints are not covered (including, but not limited to, low power and/or poor fuel economy). Coverage is limited to defects in material and workmanship of a Covered Part directly causing the performance issue.
9. **WEAROUT:** Mack Trucks does not cover normal wear of Covered Parts. Failures attributable to wear are excluded. For example and without limitation, the wear rate of parts in any engine or transmission, and especially those parts within the combustion area and clutch housing area, will vary depending upon operating conditions and environment. Conditions, such as load, trailer configuration, road speed and road conditions, as well as the quality of fuel, lubrication oil, and all filters bear a direct relationship to the wear rate and resulting life of parts. Depending upon the severity of these various conditions, parts wear and resulting failure could occur within the time limit of the coverage.
10. **NON-GENUINE PARTS:** Any failure of any vehicle, component or part caused by the use of parts and accessories, or major assemblies and exchange units, which do not meet factory standards is not covered.
11. **ODOMETER READING:** Any vehicle on which the actual mileage or hours cannot readily be determined, or on which the odometer, hour meter, or Electronic Control Unit has been disconnected, disabled, or altered, may not be covered by this warranty.
12. **ACCESS TO INFORMATION:** Owner must allow Mack Trucks full access to all data stored in all Electronic Control Modules; failure to do so may result in the loss of warranty coverage.
- LABOR:** Labor to remove and install a Covered Part is included only if a Mack Trucks authorized dealer originally installed the Covered Part. Labor for overtime and/or shift differential is not covered. Excessive labor for a warrantable repair due to the prior installation of equipment or body is not covered.
14. **MISC. EXPENSE:** Meals, lodging, communications charges, travel time and expense, loss of cargo, downtime, loss of profit/revenue, rental vehicles, driver's wages and other miscellaneous expenses are not covered. Shop supplies, lube oil, lubricants, sealers, anti-freeze, filter elements and labor performed by a non-approved location are not covered.
15. **ADDITIONAL COMPONENTS:** Components or parts that are not installed by Mack Trucks, including winches, power take-offs, dumper, mixer and refuse assemblies, hoists and bodies or other special equipment are not covered. During a warrantable repair, additional time to remove any customer installed components will not be covered under warranty. Mack Trucks' factory manufacturing records will be determinative as to factory installed components.
16. **TOWING:** Unless expressly provided in this Warranty Certificate, expenses for towing or road service are not covered. Failures caused by improper towing technique are not covered.
17. **SUSPENSION PARTS:** Suspension parts, including but not limited to rubber bushings, torque rod bushings, spring pins and bushings, and greased lubrication points that fail due to improper maintenance, abnormally severe service or abuse are not covered.
18. **CAB STRUCTURE AND CORROSION:** Cab structural defects or cab corrosion that occurs in areas of the cab that previously were damaged, repaired, altered or modified are not covered. Cab corrosion where metal is perforated from the outside to the inside is not covered.
19. **VENDOR ENGINES, ALLISON AUTOMATIC TRANSMISSIONS AND ALTERNATE FUEL STORAGE AND DELIVERY SYSTEMS:** Vendor engines, Allison automatic transmissions and alternate fuel (CNG/LNG/DME) fuel storage/delivery components used in Mack trucks are warranted by their respective manufacturers and not by Mack Trucks, Inc. Refer to the manufacturers' warranty statements.
20. **OIL CONSUMPTION:** Before a claim based upon excessive oil consumption will be considered, the owner must provide proof that all recommended maintenance has been performed and submit adequate documentation to show that oil consumption exceeds Mack Trucks' published standards. Under no circumstances will warranty pay for repairs related to excessive oil consumption after the earlier of 24 months, 250,000 miles, or 402,000 kilometers.
21. **ENVIRONMENTAL DAMAGE:** Parts made out of cloth, leather, wood, rubber, synthetics, paint or chrome which have been affected by exposure to the elements or chemical influence including, but not limited to, road salt/chemicals, industrial fall-out or the use of improper cleaners, polishes and/or waxes are not covered.
22. **ALIGNMENT:** Alignment of axle(s), balance of tires, changing of axle camber, caster, toe and thrust angle are not covered.
23. **GLASS:** Glass breakage and scratches are not covered unless physical proof of manufacturing responsibility is established.
24. **TIRES:** Except as expressly provided in warranty certificates covering Green House Gas (GHG) components, tires are covered only under warranties provided by the tire manufacturer.
25. **CHANGES:** Mack Trucks reserves the right to make any changes in design, or make additions to or upon its products, without incurring any obligations to install the same changes on vehicles previously built.

THIS WARRANTY IS MADE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, REPRESENTATIONS OR CONDITIONS, STATUTORY OR OTHERWISE, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATION OR LIABILITY ON THE PART OF THE MANUFACTURER INCLUDING, WITHOUT LIMITATION OF THE FOREGOING, CONSEQUENTIAL, INDIRECT, AND INCIDENTAL DAMAGES. MANUFACTURER NEITHER ASSUMES NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF VEHICLES, COMPONENTS OR PARTS.

MACK®

Mack Trucks, Inc.
Post Office Box 26259
7825 National Service Road
Greensboro, North Carolina 27409

STANDARD ENGINE WARRANTY CERTIFICATE

(EPA 17 and Newer, Model Year 2024)



Mack Trucks warrants certain individual components of each new Mack MP®7 and MP8 EPA 17 and newer emission engine in a new Mack truck to be free from defects in material and workmanship under normal use and service up to the periods specified, provided all Mack Trucks' maintenance and inspection requirements are followed. See your local authorized Mack dealer for recommended maintenance and inspection procedures. All warranty periods are calculated from the date in service of the vehicle. All coverage is 100% for parts and labor subject to the qualifications, limitations and exclusions as noted.

LIMITATIONS AND EXCLUSIONS TO THIS WARRANTY APPEAR ON THE FOLLOWING PAGES OF THIS CERTIFICATE.
THESE LIMITATIONS AND EXCLUSIONS ARE IMPORTANT AND MUST BE READ AND UNDERSTOOD.

This warranty applies to only new Mack MP®7 and MP8 engines meeting EPA 17 and newer emission requirements in new Mack trucks operated in the United States and Canada installed in Model Year 2024 trucks.

Standard Mack Engine Components Coverage: 24 months or 250,000 miles (402,336 km), whichever occurs first, unless otherwise noted.

Major Components Coverage: 60 months or 500,000 miles (804,672 km), whichever occurs first.

USE OF IMPROPER OR UNAPPROVED FUEL OR ENGINE OIL WILL VOID THE ENGINE AND AFTERTREATMENT SYSTEM (DIESEL PARTICULATE FILTER) WARRANTIES. EPA 17 AND NEWER EMISSION MACK ENGINES REQUIRE THE USE OF MACK SPECIFICATION EOS 4.5 HIGH PERFORMANCE DIESEL ENGINE OIL AND ULTRA LOW SULFUR DIESEL (ULSD) FUEL.

USE OF FLUIDS OTHER THAN API CERTIFIED DIESEL EXHAUST FLUID (DEF) WILL COMPROMISE AFTERTREATMENT SYSTEM PERFORMANCE, INCREASE EMISSIONS, AND MAY IMPACT THIS TRUCK'S PRODUCT WARRANTIES.

SEE FOLLOWING TABLE FOR SPECIFIC COVERAGES:

Covered Standard Components List: 24 Months or 250,000 miles (402,336 km)	Qualifications and Limitations
Air Compressor	Includes: Sprocket and Mounting Bolts
Bearings	All internally lubricated bearings and bushings only.
Camshaft, Caps, and Bolts	Failures resulting from the valve and injector adjustments not being maintained properly are NOT covered. Normal maintenance adjustments are NOT covered.
Connecting Rods, Caps, and Bolts	
Coolant Duct Cover	
Crankcase Ventilation Assembly	
Crankshaft	
Crankshaft Hub	
Cylinder Block	Includes: Casting, Main Caps, and Bolts
Cylinder Block Heater	
Cylinder Head	Includes: Assembly, Casting, Bolts, Plugs, and Sleeves
Diesel Particulate Filter Assembly (DPF) / Diesel Oxidation Catalyst (DOC) / Selective Catalytic Reduction (SCR)	Includes: Aftertreatment Hydrocarbon Injector (AHI), Aftertreatment Wiring Harness, Aftertreatment Control Module, Diffuser Pipe (AHI Mounting), Fuel Lines to AHI Injector, AHI Shutoff Valve, AHI Fuel Pressure Sensor, Pre-Catalyst Temperature Sensor, Post-Catalyst Temperature Sensor, Downstream DPF Temperature Sensor, DPF Differential Pressure Sensor, Particulate Matter (PM) Sensor, SCR Assembly, DEF Pump Assembly (Pump Reverting Valve, Pump Pressure Sensor), DEF Injector, DEF Tank Heating Control Valve, NOx (SCR Inlet and Outlet) Sensor, Downstream SCR Temperature Sensor (T4)
EGR (Exhaust Gas Recirculation) Components	All components including Clamps, Control Valve, Controller Area Network (CAN) EGR Valve, Cooler, Fittings, Gaskets, Mixer, Pipes, Charge Air Cooler Temperature Out (CAC Out) Sensor, EGR Venturi Differential Pressure Sensor, EGR Wiring Harness.
Electrical EA Harness Supplied with Engine	From EECU to sensors and injectors and actuators
Engine Electronic Control Unit (EECU)	
Engine Brake Mechanism - PowerLeash™	Factory installed only. Includes: PowerLeash™ Control Valve and PowerLeash™ Rocker Arms. Turbo Compound (TC) engine: Closed Loop Butterfly (CLB)

Continued on Page 2...

Covered Standard Engine Components List: 24 Months or 250,000 miles (402,336 km)	Qualifications and Limitations
Exhaust Manifold	Includes: Casting, Joint Seals, Rings, and Wraps
Fan Belt Tensioner Assemblies and Bracket	Excludes: Fan Belts
Flywheel	Includes: Housing and Ring Gear
Fuel Filter Housing	Excludes: Filters
Fuel Injection System	Includes: Injectors and Common Rail Assembly (Electronic Fuel Pressure Regulator and Pressure Sensor)
Fuel Transfer Pump	
Gaskets, Seals, O Rings, and Silicon Sealant	
Gears	All internally lubricated gears only (Timing and Idler gears)
Hoses and Lines Supplied with Engine	Fluid carrying: Engine to engine mounted
Idler Pulleys	
Intake Manifold and Throttle Assembly	
Ladder Frame	
Oil Cooler	Engine Oil Cooler only
Oil Fill Tube and Cap	
Oil Filter Housing	Excludes: Oil Filters. Includes: All control valves and sensors contained in the Oil Filter Housing.
Oil Pan	
Oil Pump	
Piston Assembly	Includes: Cooler Nozzles, Liners, Pistons, and Rings
Pneumatic Control System	TC Engine: Air Valve Unit, Buffer Valve Unit, and Check Valve
Power Steering Pump	
Pre-Heater	Factory installed only. Includes: Preheat Relay, Terminals, and Power Cables
PTO Drive / REPTO (Rear Engine Mounted PTO Drive)	Factory installed only. Excludes: All Pumps or Driven Gears
Rocker Arm Assembly and Shafts	Includes: PowerLeash™ Rockers and Non-PowerLeash™ Rockers. Failures resulting from the valve and injector adjustments not being maintained properly are NOT covered. Normal maintenance adjustments are NOT covered.
Sensors (On Engine)	Includes: Temperature-Coolant, Crankcase Pressure, EGR Temperature, Engine Oil Level/Temperature, Engine Oil Pressure, Engine Timing/Speed (Flywheel), Temperature & Pressure – Inlet Manifold Air Sensor; Piston Cooling Jet Pressure
Starter Motor	
Telematics Gateway	TGW Unit and Associated Hardware (Antenna, Cab Overlay Harness, Antenna Cables)
Thermostat (Coolant)	Includes: Thermostat Side Cover
Timing Gear Cover and Plate	
Towing	Towing/Road Service on warrantable engine failures is covered to 24 months or 250,000 miles (402 336 km) whichever occurs first, limited to the truck (less trailer) and to a single tow per incident to the nearest authorized Mack service center. Charges in excess of \$1,000.00 are not covered unless Mack OneCall™ service is contacted and approves additional amounts prior to tow.
Turbocharger Assembly	Includes: VGT Actuator Module and Turbo Compound (TC) Assembly, if included
Valve Assembly	Includes: Guides, Keepers, Rotators, Seats, Springs, and Valves. Failures resulting from the valve adjustments not being maintained properly are NOT covered. Normal maintenance adjustments are NOT covered.
Valve Cover	
Valve Yokes (Bridge) and Pins	Failures resulting from the valve adjustments not being maintained properly are NOT covered. Normal maintenance adjustments are NOT covered.
Vibration Dampers and Bolts	
Water Pump Assembly	
Covered Major Engine Components List: 60 Months or 500,000 miles (804,672 km)	Qualifications and Limitations
Camshaft, Caps, and Bolts	Failures resulting from the valve & injector adjustments not being maintained properly are NOT covered. Normal maintenance adjustments are NOT covered.
Connecting Rods, Caps, and Bolts	
Crankshaft Forging	
Cylinder Block Casting, Main Caps, and Bolts	
Cylinder Head Casting and Bolts	
Exhaust Manifold Casting	
Flywheel Housing	
Gears	All internally lubricated gears only (Timing and Idler Gears)
Intake Manifold Housing	
Ladder Frame	
Thermostat Housing	
Timing Gear Mounting Plate	Excludes: Timing Gear Cover

Continued on Page 3...

THESE LIMITATIONS AND EXCLUSIONS ARE IMPORTANT AND MUST BE READ AND UNDERSTOOD.

WARRANTY LIMITATIONS – Mack Trucks' obligation is limited to, at its sole option, repair or replacement of parts which are acknowledged by it to be defective. The defective parts or assemblies replaced shall become the property of Mack Trucks. Warranty repairs performed by an authorized Mack dealer in accordance with the terms of the warranty set forth herein are free of charge. Warranty consideration can only be given if the deficiency is brought to the attention of an authorized Mack dealer upon discovery and the vehicle must be made available, in a timely fashion during the coverage period, for repair.

EXCLUSIONS:

1. **REPAIR:** In the case of acknowledged defective Covered Parts, exchange with factory remanufactured parts may occur. Warranty repairs do not constitute an extension of any warranty period for any vehicle, component or part.
2. **DAMAGES:** Damages due to misapplication, misuse, accidents, negligence, improper operations, alterations, storage or transport, operation at excessive speeds, loading beyond the factory rated load capacity, failure to follow Mack Trucks' recommended inspection, maintenance, and service procedures, and improper or insufficient maintenance services are not covered.
3. **PROGRESSIVE DAMAGE:** Damages due to failure of operator to take reasonable precautions to mitigate damage are not covered. Damages to a Covered Part due to failure of non-covered part are not covered. Coverage is limited to failure of a Covered Part directly causing failure of a non-covered part, where reasonable precautions were taken to mitigate damages.
4. **APPLICATION:** The selling dealer is responsible for designating the correct application and/or specification for a vehicle sold to a customer. Damages due to misapplication, including but not limited to, failures of component parts of vehicles being operated in excess of factory rated load capacities, or the use of a vehicle, component or part for a purpose for which it was not intended are not covered.
5. **ALTERATIONS:** Any vehicle, component or part repaired, altered, or inspected in any way, so as to adversely affect, in Mack Trucks' sole judgment, its stability, durability, or reliability, is not covered.
6. **NON-ORIGINAL EQUIPMENT:** Any part of the vehicle that fails, malfunctions, or does not perform as a result of improper conversion or installation of bodies or equipment by other manufacturers or suppliers is not covered.
7. **MAINTENANCE AND PARTS CONSUMED:** Maintenance and inspection requirements found in the Operator's Manuals and service manuals/instructions, including, but not limited to, engine tune-up, fuel system cleaning, replacement of lubricants and filter elements, adjustments of the engine injection pump/transmission/brakes/linkages, as well as diagnosis, test time and all other adjustments must be followed and are not covered. Parts which are normally consumed or worn out during the vehicle's normal service life and customarily replaced during usual maintenance service, including, but not limited to, mud flaps and brackets, brake linings, clutch brake, and clutch linings, are not covered.
8. **PERFORMANCE COMPLAINTS:** Performance complaints are not covered (including, but not limited to, low power and/or poor fuel economy). Coverage is limited to defects in material and workmanship of a Covered Part directly causing the performance issue.
9. **WEAROUT:** Mack Trucks does not cover normal wear of Covered Parts. Failures attributable to wear are excluded. For example and without limitation, the wear rate of parts in any engine or transmission, and especially those parts within the combustion area and clutch housing area, will vary depending upon operating conditions and environment. Conditions, such as load, trailer configuration, road speed and road conditions, as well as the quality of fuel, lubrication oil, and all filters bear a direct relationship to the wear rate and resulting life of parts. Depending upon the severity of these various conditions, parts wear and resulting failure could occur within the time limit of the coverage.
10. **NON-GENUINE PARTS:** Any failure of any vehicle, component or part caused by the by use of parts and accessories, or major assemblies and exchange units, which do not meet factory standards is not covered.
11. **ODOMETER READING:** Any vehicle on which the actual mileage or hours cannot readily be determined, or on which the odometer, hour meter, or Electronic Control Unit has been disconnected, disabled, or altered, may not be covered by this warranty.
12. **ACCESS TO INFORMATION:** Owner must allow Mack Trucks full access to all data stored in all Electronic Control Modules; failure to do so may result in the loss of warranty coverage.
13. **LABOR:** Labor to remove and install a Covered Part is included only if a Mack Trucks authorized dealer originally installed the Covered Part. Labor for overtime and/or shift differential is not covered. Excessive labor for a warrantable repair due to the prior installation of equipment or body is not covered.
14. **MISC. EXPENSE:** Meals, lodging, communications charges, travel time and expense, loss of cargo, downtime, loss of profit/revenue, rental vehicles, driver's wages and other miscellaneous expenses are not covered. Shop supplies, lube oil, lubricants, sealers, anti-freeze, filter elements and labor performed by a non-approved location are not covered.
15. **ADDITIONAL COMPONENTS:** Components or parts that are not installed by Mack Trucks, including winches, power take-offs, dumper, mixer and refuse assemblies, hoists and bodies or other special equipment are not covered. During a warrantable repair, additional time to remove any customer installed components will not be covered under warranty. Mack Trucks' factory manufacturing records will be determinative as to factory installed components.
16. **TOWING:** Unless expressly provided in this Warranty Certificate, expenses for towing or road service are not covered. Failures caused by improper towing technique are not covered.
17. **SUSPENSION PARTS:** Suspension parts, including but not limited to rubber bushings, torque rod bushings, spring pins and bushings, and greased lubrication points that fail due to improper maintenance, abnormally severe service or abuse are not covered.
18. **CAB STRUCTURE AND CORROSION:** Cab structural defects or cab corrosion that occurs in areas of the cab that previously were damaged, repaired, altered or modified are not covered. Cab corrosion where metal is perforated from the outside to the inside is not covered.
19. **VENDOR ENGINES, ALLISON AUTOMATIC TRANSMISSIONS and ALTERNATE FUEL STORAGE AND DELIVERY SYSTEMS:** Vendor engines, Allison automatic transmissions and alternate fuel (CNG/LNG/DME) fuel storage/delivery components used in Mack trucks are warranted by their respective manufacturers and not by Mack Trucks, Inc. Refer to the manufacturers' warranty statements.
20. **OIL CONSUMPTION:** Before a claim based upon excessive oil consumption will be considered, the owner must provide proof that all recommended maintenance has been performed and submit adequate documentation to show that oil consumption exceeds Mack Trucks' published standards. Under no circumstances will warranty pay for repairs related to excessive oil consumption after the earlier of 24 months, 250,000 miles, or 402,000 kilometers.
21. **ENVIRONMENTAL DAMAGE:** Parts made out of cloth, leather, wood, rubber, synthetics, paint or chrome, which have been affected by exposure to the elements or chemical influence including, but not limited to, road salt/chemicals, industrial fall-out or the use of improper cleaners, polishes and/or waxes are not covered.
22. **ALIGNMENT:** Alignment of axle(s), balance of tires, changing of axle camber, caster, toe and thrust angle are not covered.
23. **GLASS:** Glass breakage and scratches are not covered unless physical proof of manufacturing responsibility is established.
24. **TIRES:** Except as expressly provided in warranty certificates covering Green House Gas (GHG) components, tires are covered only under warranties provided by the tire manufacturer.
25. **CHANGES:** Mack Trucks reserves the right to make any changes in design, or make additions to or upon its products, without incurring any obligations to install the same changes on vehicles previously built.

THIS WARRANTY IS MADE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, REPRESENTATIONS OR CONDITIONS, STATUTORY OR OTHERWISE, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATION OR LIABILITY ON THE PART OF THE MANUFACTURER INCLUDING, WITHOUT LIMITATION OF THE FOREGOING, CONSEQUENTIAL, INDIRECT, AND INCIDENTAL DAMAGES. MANUFACTURER NEITHER ASSUMES NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF VEHICLES, COMPONENTS OR PARTS.

MACK®

Mack Trucks, Inc.
Post Office Box 26259
7825 National Service Road
Greensboro, North Carolina 27409

**THE E-VERIFY
MEMORANDUM OF UNDERSTANDING
FOR EMPLOYERS**

**ARTICLE I
PURPOSE AND AUTHORITY**

The parties to this agreement are the Department of Homeland Security (DHS) and the Nextran Corporation (Employer). The purpose of this agreement is to set forth terms and conditions which the Employer will follow while participating in E-Verify.

E-Verify is a program that electronically confirms an employee's eligibility to work in the United States after completion of Form I-9, Employment Eligibility Verification (Form I-9). This Memorandum of Understanding (MOU) explains certain features of the E-Verify program and describes specific responsibilities of the Employer, the Social Security Administration (SSA), and DHS.

Authority for the E-Verify program is found in Title IV, Subtitle A, of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (IIRIRA), Pub. L. 104-208, 110 Stat. 3009, as amended (8 U.S.C. § 1324a note). The Federal Acquisition Regulation (FAR) Subpart 22.18, "Employment Eligibility Verification" and Executive Order 12989, as amended, provide authority for Federal contractors and subcontractors (Federal contractor) to use E-Verify to verify the employment eligibility of certain employees working on Federal contracts.

**ARTICLE II
RESPONSIBILITIES**

A. RESPONSIBILITIES OF THE EMPLOYER

1. The Employer agrees to display the following notices supplied by DHS in a prominent place that is clearly visible to prospective employees and all employees who are to be verified through the system:

- a. Notice of E-Verify Participation
- b. Notice of Right to Work

2. The Employer agrees to provide to the SSA and DHS the names, titles, addresses, and telephone numbers of the Employer representatives to be contacted about E-Verify. The Employer also agrees to keep such information current by providing updated information to SSA and DHS whenever the representatives' contact information changes.

3. The Employer agrees to grant E-Verify access only to current employees who need E-Verify access. Employers must promptly terminate an employee's E-Verify access if the employer is separated from the company or no longer needs access to E-Verify.

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4. The Employer agrees to become familiar with and comply with the most recent version of the E-Verify User Manual.

5. The Employer agrees that any Employer Representative who will create E-Verify cases will complete the E-Verify Tutorial before that individual creates any cases.

a. The Employer agrees that all Employer representatives will take the refresher tutorials when prompted by E-Verify in order to continue using E-Verify. Failure to complete a refresher tutorial will prevent the Employer Representative from continued use of E-Verify.

6. The Employer agrees to comply with current Form I-9 procedures, with two exceptions:

a. If an employee presents a "List B" identity document, the Employer agrees to only accept "List B" documents that contain a photo. (List B documents identified in 8 C.F.R. § 274a.2(b)(1)(B)) can be presented during the Form I-9 process to establish identity.) If an employee objects to the photo requirement for religious reasons, the Employer should contact E-Verify at 888-464-4218.

b. If an employee presents a DHS Form I-551 (Permanent Resident Card), Form I-766 (Employment Authorization Document), or U.S. Passport or Passport Card to complete Form I-9, the Employer agrees to make a photocopy of the document and to retain the photocopy with the employee's Form I-9. The Employer will use the photocopy to verify the photo and to assist DHS with its review of photo mismatches that employees contest. DHS may in the future designate other documents that activate the photo screening tool.

Note: Subject only to the exceptions noted previously in this paragraph, employees still retain the right to present any List A, or List B and List C, document(s) to complete the Form I-9.

7. The Employer agrees to record the case verification number on the employee's Form I-9 or to print the screen containing the case verification number and attach it to the employee's Form I-9.

8. The Employer agrees that, although it participates in E-Verify, the Employer has a responsibility to complete, retain, and make available for inspection Forms I-9 that relate to its employees, or from other requirements of applicable regulations or laws, including the obligation to comply with the antidiscrimination requirements of section 274B of the INA with respect to Form I-9 procedures.

a. The following modified requirements are the only exceptions to an Employer's obligation to not employ unauthorized workers and comply with the anti-discrimination provision of the INA: (1) List B identity documents must have photos, as described in paragraph 6 above; (2) When an Employer confirms the identity and employment eligibility of newly hired employee using E-Verify procedures, the Employer establishes a rebuttable presumption that it has not violated section 274A(a)(1)(A) of the Immigration and Nationality Act (INA) with respect to the hiring of that employee; (3) If the Employer receives a final nonconfirmation for an employee, but continues to employ that person, the Employer must notify DHS and the Employer is subject to a civil money penalty between \$550 and \$1,100 for each failure to notify DHS of continued employment following a final nonconfirmation; (4) If the Employer continues to employ an employee after receiving a final nonconfirmation, then the Employer is subject to a rebuttable presumption that it has knowingly

employed an unauthorized alien in violation of section 274A(a)(1)(A); and (5) no E-Verify participant is civilly or criminally liable under any law for any action taken in good faith based on information provided through the E-Verify.

b. DHS reserves the right to conduct Form I-9 compliance inspections, as well as any other enforcement or compliance activity authorized by law, including site visits, to ensure proper use of E-Verify.

9. The Employer is strictly prohibited from creating an E-Verify case before the employee has been hired, meaning that a firm offer of employment was extended and accepted and Form I-9 was completed. The Employer agrees to create an E-Verify case for new employees within three Employer business days after each employee has been hired (after both Sections 1 and 2 of Form I-9 have been completed), and to complete as many steps of the E-Verify process as are necessary according to the E-Verify User Manual. If E-Verify is temporarily unavailable, the three-day time period will be extended until it is again operational in order to accommodate the Employer's attempting, in good faith, to make inquiries during the period of unavailability.

10. The Employer agrees not to use E-Verify for pre-employment screening of job applicants, in support of any unlawful employment practice, or for any other use that this MOU or the E-Verify User Manual does not authorize.

11. The Employer must use E-Verify for all new employees. The Employer will not verify selectively and will not verify employees hired before the effective date of this MOU. Employers who are Federal contractors may qualify for exceptions to this requirement as described in Article II.B of this MOU.

12. The Employer agrees to follow appropriate procedures (see Article III below) regarding tentative nonconfirmations. The Employer must promptly notify employees in private of the finding and provide them with the notice and letter containing information specific to the employee's E-Verify case. The Employer agrees to provide both the English and the translated notice and letter for employees with limited English proficiency to employees. The Employer agrees to provide written referral instructions to employees and instruct affected employees to bring the English copy of the letter to the SSA. The Employer must allow employees to contest the finding, and not take adverse action against employees if they choose to contest the finding, while their case is still pending. Further, when employees contest a tentative nonconfirmation based upon a photo mismatch, the Employer must take additional steps (see Article III.B. below) to contact DHS with information necessary to resolve the challenge.

13. The Employer agrees not to take any adverse action against an employee based upon the employee's perceived employment eligibility status while SSA or DHS is processing the verification request unless the Employer obtains knowledge (as defined in 8 C.F.R. § 274a.1(l)) that the employee is not work authorized. The Employer understands that an initial inability of the SSA or DHS automated verification system to verify work authorization, a tentative nonconfirmation, a case in continuance (indicating the need for additional time for the government to resolve a case), or the finding of a photo mismatch, does not establish, and should not be interpreted as, evidence that the employee is not work authorized. In any of such cases, the employee must be provided a full and fair opportunity to contest the finding, and if he or she does so, the employee may not be terminated or suffer any adverse employment consequences based upon the employee's perceived employment eligibility status.

(including denying, reducing, or extending work hours, delaying or preventing training, requiring an employee to work in poorer conditions, withholding pay, refusing to assign the employee to a Federal contract or other assignment, or otherwise assuming that he or she is unauthorized to work) until and unless secondary verification by SSA or DHS has been completed and a final nonconfirmation has been issued. If the employee does not choose to contest a tentative nonconfirmation or a photo mismatch or if a secondary verification is completed and a final nonconfirmation is issued, then the Employer can find the employee is not work authorized and terminate the employee's employment. Employers or employees with questions about a final nonconfirmation may call E-Verify at 1-888-464-4218 (customer service) or 1-888-897-7781 (worker hotline).

14. The Employer agrees to comply with Title VII of the Civil Rights Act of 1964 and section 274B of the INA as applicable by not discriminating unlawfully against any individual in hiring, firing, employment eligibility verification, or recruitment or referral practices because of his or her national origin or citizenship status, or by committing discriminatory documentary practices. The Employer understands that such illegal practices can include selective verification or use of E-Verify except as provided in part D below, or discharging or refusing to hire employees because they appear or sound "foreign" or have received tentative nonconfirmations. The Employer further understands that any violation of the immigration-related unfair employment practices provisions in section 274B of the INA could subject the Employer to civil penalties, back pay awards, and other sanctions, and violations of Title VII could subject the Employer to back pay awards, compensatory and punitive damages. Violations of either section 274B of the INA or Title VII may also lead to the termination of its participation in E-Verify. If the Employer has any questions relating to the anti-discrimination provision, it should contact OSC at 1-800-255-8155 or 1-800-237-2515 (TDD).

15. The Employer agrees that it will use the information it receives from E-Verify only to confirm the employment eligibility of employees as authorized by this MOU. The Employer agrees that it will safeguard this information, and means of access to it (such as PINS and passwords), to ensure that it is not used for any other purpose and as necessary to protect its confidentiality, including ensuring that it is not disseminated to any person other than employees of the Employer who are authorized to perform the Employer's responsibilities under this MOU, except for such dissemination as may be authorized in advance by SSA or DHS for legitimate purposes.

16. The Employer agrees to notify DHS immediately in the event of a breach of personal information. Breaches are defined as loss of control or unauthorized access to E-Verify personal data. All suspected or confirmed breaches should be reported by calling 1-888-464-4218 or via email at E-Verify@dhs.gov. Please use "Privacy Incident – Password" in the subject line of your email when sending a breach report to E-Verify.

17. The Employer acknowledges that the information it receives from SSA is governed by the Privacy Act (5 U.S.C. § 552a(i)(1) and (3)) and the Social Security Act (42 U.S.C. 1306(a)). Any person who obtains this information under false pretenses or uses it for any purpose other than as provided for in this MOU may be subject to criminal penalties.

18. The Employer agrees to cooperate with DHS and SSA in their compliance monitoring and evaluation of E-Verify, which includes permitting DHS, SSA, their contractors and other agents, upon

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reasonable notice, to review Forms I-9 and other employment records and to interview it and its employees regarding the Employer's use of E-Verify, and to respond in a prompt and accurate manner to DHS requests for information relating to their participation in E-Verify.

19. The Employer shall not make any false or unauthorized claims or references about its participation in E-Verify on its website, in advertising materials, or other media. The Employer shall not describe its services as federally-approved, federally-certified, or federally-recognized, or use language with a similar intent on its website or other materials provided to the public. Entering into this MOU does not mean that E-Verify endorses or authorizes your E-Verify services and any claim to that effect is false.

20. The Employer shall not state in its website or other public documents that any language used therein has been provided or approved by DHS, USCIS or the Verification Division, without first obtaining the prior written consent of DHS.

21. The Employer agrees that E-Verify trademarks and logos may be used only under license by DHS/USCIS (see [M-795 \(Web\)](#)) and, other than pursuant to the specific terms of such license, may not be used in any manner that might imply that the Employer's services, products, websites, or publications are sponsored by, endorsed by, licensed by, or affiliated with DHS, USCIS, or E-Verify.

22. The Employer understands that if it uses E-Verify procedures for any purpose other than as authorized by this MOU, the Employer may be subject to appropriate legal action and termination of its participation in E-Verify according to this MOU.

B. RESPONSIBILITIES OF FEDERAL CONTRACTORS

1. If the Employer is a Federal contractor with the FAR E-Verify clause subject to the employment verification terms in Subpart 22.18 of the FAR, it will become familiar with and comply with the most current version of the E-Verify User Manual for Federal Contractors as well as the E-Verify Supplemental Guide for Federal Contractors.

2. In addition to the responsibilities of every employer outlined in this MOU, the Employer understands that if it is a Federal contractor subject to the employment verification terms in Subpart 22.18 of the FAR it must verify the employment eligibility of any "employee assigned to the contract" (as defined in FAR 22.1801). Once an employee has been verified through E-Verify by the Employer, the Employer may not create a second case for the employee through E-Verify.

a. An Employer that is not enrolled in E-Verify as a Federal contractor at the time of a contract award must enroll as a Federal contractor in the E-Verify program within 30 calendar days of contract award and, within 90 days of enrollment, begin to verify employment eligibility of new hires using E-Verify. The Employer must verify those employees who are working in the United States, whether or not they are assigned to the contract. Once the Employer begins verifying new hires, such verification of new hires must be initiated within three business days after the hire date. Once enrolled in E-Verify as a Federal contractor, the Employer must begin verification of employees assigned to the contract within 90 calendar days after the date of enrollment or within 30 days of an employee's assignment to the contract, whichever date is later.

b. Employers enrolled in E-Verify as a Federal contractor for 90 days or more at the time of a contract award must use E-Verify to begin verification of employment eligibility for new hires of the Employer who are working in the United States, whether or not assigned to the contract, within three business days after the date of hire. If the Employer is enrolled in E-Verify as a Federal contractor for 90 calendar days or less at the time of contract award, the Employer must, within 90 days of enrollment, begin to use E-Verify to initiate verification of new hires of the contractor who are working in the United States, whether or not assigned to the contract. Such verification of new hires must be initiated within three business days after the date of hire. An Employer enrolled as a Federal contractor in E-Verify must begin verification of each employee assigned to the contract within 90 calendar days after date of contract award or within 30 days after assignment to the contract, whichever is later.

c. Federal contractors that are institutions of higher education (as defined at 20 U.S.C. 1001(a)), state or local governments, governments of Federally recognized Indian tribes, or sureties performing under a takeover agreement entered into with a Federal agency under a performance bond may choose to only verify new and existing employees assigned to the Federal contract. Such Federal contractors may, however, elect to verify all new hires, and/or all existing employees hired after November 6, 1986. Employers in this category must begin verification of employees assigned to the contract within 90 calendar days after the date of enrollment or within 30 days of an employee's assignment to the contract, whichever date is later.

d. Upon enrollment, Employers who are Federal contractors may elect to verify employment eligibility of all existing employees working in the United States who were hired after November 6, 1986, instead of verifying only those employees assigned to a covered Federal contract. After enrollment, Employers must elect to verify existing staff following DHS procedures and begin E-Verify verification of all existing employees within 180 days after the election.

e. The Employer may use a previously completed Form I-9 as the basis for creating an E-Verify case for an employee assigned to a contract as long as:

- i. That Form I-9 is complete (including the SSN) and complies with Article II.A.6,
- ii. The employee's work authorization has not expired, and
- iii. The Employer has reviewed the Form I-9 information either in person or in communications with the employee to ensure that the employee's Section 1, Form I-9 attestation has not changed (including, but not limited to, a lawful permanent resident alien having become a naturalized U.S. citizen).

f. The Employer shall complete a new Form I-9 consistent with Article II.A.6 or update the previous Form I-9 to provide the necessary information if:

- i. The Employer cannot determine that Form I-9 complies with Article II.A.6,
- ii. The employee's basis for work authorization as attested in Section 1 has expired or changed, or
- iii. The Form I-9 contains no SSN or is otherwise incomplete.

Note: If Section 1 of Form I-9 is otherwise valid and up-to-date and the form otherwise complies with

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Article II.C.5, but reflects documentation (such as a U.S. passport or Form I-551) that expired after completing Form I-9, the Employer shall not require the production of additional documentation, or use the photo screening tool described in Article II.A.5, subject to any additional or superseding instructions that may be provided on this subject in the E-Verify User Manual.

g. The Employer agrees not to require a second verification using E-Verify of any assigned employee who has previously been verified as a newly hired employee under this MOU or to authorize verification of any existing employee by any Employer that is not a Federal contractor based on this Article.

3. The Employer understands that if it is a Federal contractor, its compliance with this MOU is a performance requirement under the terms of the Federal contract or subcontract, and the Employer consents to the release of information relating to compliance with its verification responsibilities under this MOU to contracting officers or other officials authorized to review the Employer's compliance with Federal contracting requirements.

C. RESPONSIBILITIES OF SSA

1. SSA agrees to allow DHS to compare data provided by the Employer against SSA's database. SSA sends DHS confirmation that the data sent either matches or does not match the information in SSA's database.

2. SSA agrees to safeguard the information the Employer provides through E-Verify procedures. SSA also agrees to limit access to such information, as is appropriate by law, to individuals responsible for the verification of Social Security numbers or responsible for evaluation of E-Verify or such other persons or entities who may be authorized by SSA as governed by the Privacy Act (5 U.S.C. § 552a), the Social Security Act (42 U.S.C. 1306(a)), and SSA regulations (20 CFR Part 401).

3. SSA agrees to provide case results from its database within three Federal Government work days of the initial inquiry. E-Verify provides the information to the Employer.

4. SSA agrees to update SSA records as necessary if the employee who contests the SSA tentative nonconfirmation visits an SSA field office and provides the required evidence. If the employee visits an SSA field office within the eight Federal Government work days from the date of referral to SSA, SSA agrees to update SSA records, if appropriate, within the eight-day period unless SSA determines that more than eight days may be necessary. In such cases, SSA will provide additional instructions to the employee. If the employee does not visit SSA in the time allowed, E-Verify may provide a final nonconfirmation to the employer.

Note: If an Employer experiences technical problems, or has a policy question, the employer should contact E-Verify at 1-888-464-4218.

D. RESPONSIBILITIES OF DHS

1. DHS agrees to provide the Employer with selected data from DHS databases to enable the Employer to conduct, to the extent authorized by this MOU:

a. Automated verification checks on alien employees by electronic means, and

- b. Photo verification checks (when available) on employees.
2. DHS agrees to assist the Employer with operational problems associated with the Employer's participation in E-Verify. DHS agrees to provide the Employer names, titles, addresses, and telephone numbers of DHS representatives to be contacted during the E-Verify process.
3. DHS agrees to provide to the Employer with access to E-Verify training materials as well as an E-Verify User Manual that contain instructions on E-Verify policies, procedures, and requirements for both SSA and DHS, including restrictions on the use of E-Verify.
4. DHS agrees to train Employers on all important changes made to E-Verify through the use of mandatory refresher tutorials and updates to the E-Verify User Manual. Even without changes to E-Verify, DHS reserves the right to require employers to take mandatory refresher tutorials.
5. DHS agrees to provide to the Employer a notice, which indicates the Employer's participation in E-Verify. DHS also agrees to provide to the Employer anti-discrimination notices issued by the Office of Special Counsel for Immigration-Related Unfair Employment Practices (OSC), Civil Rights Division, U.S. Department of Justice.
6. DHS agrees to issue each of the Employer's E-Verify users a unique user identification number and password that permits them to log in to E-Verify.
7. DHS agrees to safeguard the information the Employer provides, and to limit access to such information to individuals responsible for the verification process, for evaluation of E-Verify, or to such other persons or entities as may be authorized by applicable law. Information will be used only to verify the accuracy of Social Security numbers and employment eligibility, to enforce the INA and Federal criminal laws, and to administer Federal contracting requirements.
8. DHS agrees to provide a means of automated verification that provides (in conjunction with SSA verification procedures) confirmation or tentative nonconfirmation of employees' employment eligibility within three Federal Government work days of the initial inquiry.
9. DHS agrees to provide a means of secondary verification (including updating DHS records) for employees who contest DHS tentative nonconfirmations and photo mismatch tentative nonconfirmations. This provides final confirmation or nonconfirmation of the employees' employment eligibility within 10 Federal Government work days of the date of referral to DHS, unless DHS determines that more than 10 days may be necessary. In such cases, DHS will provide additional verification instructions.

ARTICLE III

REFERRAL OF INDIVIDUALS TO SSA AND DHS

A. REFERRAL TO SSA

1. If the Employer receives a tentative nonconfirmation issued by SSA, the Employer must print the notice as directed by E-Verify. The Employer must promptly notify employees in private of the finding and provide them with the notice and letter containing information specific to the employee's E-Verify

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case. The Employer also agrees to provide both the English and the translated notice and letter for employees with limited English proficiency to employees. The Employer agrees to provide written referral instructions to employees and instruct affected employees to bring the English copy of the letter to the SSA. The Employer must allow employees to contest the finding, and not take adverse action against employees if they choose to contest the finding, while their case is still pending.

2. The Employer agrees to obtain the employee's response about whether he or she will contest the tentative nonconfirmation as soon as possible after the Employer receives the tentative nonconfirmation. Only the employee may determine whether he or she will contest the tentative nonconfirmation.

3. After a tentative nonconfirmation, the Employer will refer employees to SSA field offices only as directed by E-Verify. The Employer must record the case verification number, review the employee information submitted to E-Verify to identify any errors, and find out whether the employee contests the tentative nonconfirmation. The Employer will transmit the Social Security number, or any other corrected employee information that SSA requests, to SSA for verification again if this review indicates a need to do so.

4. The Employer will instruct the employee to visit an SSA office within eight Federal Government work days. SSA will electronically transmit the result of the referral to the Employer within 10 Federal Government work days of the referral unless it determines that more than 10 days is necessary.

5. While waiting for case results, the Employer agrees to check the E-Verify system regularly for case updates.

6. The Employer agrees not to ask the employee to obtain a printout from the Social Security Administration number database (the Numident) or other written verification of the SSN from the SSA.

B. REFERRAL TO DHS

1. If the Employer receives a tentative nonconfirmation issued by DHS, the Employer must promptly notify employees in private of the finding and provide them with the notice and letter containing information specific to the employee's E-Verify case. The Employer also agrees to provide both the English and the translated notice and letter for employees with limited English proficiency to employees. The Employer must allow employees to contest the finding, and not take adverse action against employees if they choose to contest the finding, while their case is still pending.

2. The Employer agrees to obtain the employee's response about whether he or she will contest the tentative nonconfirmation as soon as possible after the Employer receives the tentative nonconfirmation. Only the employee may determine whether he or she will contest the tentative nonconfirmation.

3. The Employer agrees to refer individuals to DHS only when the employee chooses to contest a tentative nonconfirmation.

4. If the employee contests a tentative nonconfirmation issued by DHS, the Employer will instruct the

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employee to contact DHS through its toll-free hotline (as found on the referral letter) within eight Federal Government work days.

5. If the Employer finds a photo mismatch, the Employer must provide the photo mismatch tentative nonconfirmation notice and follow the instructions outlined in paragraph 1 of this section for tentative nonconfirmations, generally.

6. The Employer agrees that if an employee contests a tentative nonconfirmation based upon a photo mismatch, the Employer will send a copy of the employee's Form I-551, Form I-766, U.S. Passport, or passport card to DHS for review by:

- a. Scanning and uploading the document, or
- b. Sending a photocopy of the document by express mail (furnished and paid for by the employer).

7. The Employer understands that if it cannot determine whether there is a photo match/mismatch, the Employer must forward the employee's documentation to DHS as described in the preceding paragraph. The Employer agrees to resolve the case as specified by the DHS representative who will determine the photo match or mismatch.

8. DHS will electronically transmit the result of the referral to the Employer within 10 Federal Government work days of the referral unless it determines that more than 10 days is necessary.

9. While waiting for case results, the Employer agrees to check the E-Verify system regularly for case updates.

ARTICLE IV SERVICE PROVISIONS

A. NO SERVICE FEES

1. SSA and DHS will not charge the Employer for verification services performed under this MOU. The Employer is responsible for providing equipment needed to make inquiries. To access E-Verify, an Employer will need a personal computer with Internet access.

ARTICLE V MODIFICATION AND TERMINATION

A. MODIFICATION

1. This MOU is effective upon the signature of all parties and shall continue in effect for as long as the SSA and DHS operates the E-Verify program unless modified in writing by the mutual consent of all parties.

2. Any and all E-Verify system enhancements by DHS or SSA, including but not limited to E-Verify checking against additional data sources and instituting new verification policies or procedures, will be covered under this MOU and will not cause the need for a supplemental MOU that outlines these changes.

B. TERMINATION

1. The Employer may terminate this MOU and its participation in E-Verify at any time upon 30 days prior written notice to the other parties.
2. Notwithstanding Article V, part A of this MOU, DHS may terminate this MOU, and thereby the Employer's participation in E-Verify, with or without notice at any time if deemed necessary because of the requirements of law or policy, or upon a determination by SSA or DHS that there has been a breach of system integrity or security by the Employer, or a failure on the part of the Employer to comply with established E-Verify procedures and/or legal requirements. The Employer understands that if it is a Federal contractor, termination of this MOU by any party for any reason may negatively affect the performance of its contractual responsibilities. Similarly, the Employer understands that if it is in a state where E-Verify is mandatory, termination of this by any party MOU may negatively affect the Employer's business.
3. An Employer that is a Federal contractor may terminate this MOU when the Federal contract that requires its participation in E-Verify is terminated or completed. In such cases, the Federal contractor must provide written notice to DHS. If an Employer that is a Federal contractor fails to provide such notice, then that Employer will remain an E-Verify participant, will remain bound by the terms of this MOU that apply to non-Federal contractor participants, and will be required to use the E-Verify procedures to verify the employment eligibility of all newly hired employees.
4. The Employer agrees that E-Verify is not liable for any losses, financial or otherwise, if the Employer is terminated from E-Verify.

ARTICLE VI PARTIES

- A. Some or all SSA and DHS responsibilities under this MOU may be performed by contractor(s), and SSA and DHS may adjust verification responsibilities between each other as necessary. By separate agreement with DHS, SSA has agreed to perform its responsibilities as described in this MOU.
- B. Nothing in this MOU is intended, or should be construed, to create any right or benefit, substantive or procedural, enforceable at law by any third party against the United States, its agencies, officers, or employees, or against the Employer, its agents, officers, or employees.
- C. The Employer may not assign, directly or indirectly, whether by operation of law, change of control or merger, all or any part of its rights or obligations under this MOU without the prior written consent of DHS, which consent shall not be unreasonably withheld or delayed. Any attempt to sublicense, assign, or transfer any of the rights, duties, or obligations herein is void.
- D. Each party shall be solely responsible for defending any claim or action against it arising out of or related to E-Verify or this MOU, whether civil or criminal, and for any liability wherefrom, including (but not limited to) any dispute between the Employer and any other person or entity regarding the applicability of Section 403(d) of IIRIRA to any action taken or allegedly taken by the Employer.
- E. The Employer understands that its participation in E-Verify is not confidential information and may be disclosed as authorized or required by law and DHS or SSA policy, including but not limited to,

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Congressional oversight, E-Verify publicity and media inquiries, determinations of compliance with Federal contractual requirements, and responses to inquiries under the Freedom of Information Act (FOIA).

F. The individuals whose signatures appear below represent that they are authorized to enter into this MOU on behalf of the Employer and DHS respectively. The Employer understands that any inaccurate statement, representation, data or other information provided to DHS may subject the Employer, its subcontractors, its employees, or its representatives to: (1) prosecution for false statements pursuant to 18 U.S.C. 1001 and/or; (2) immediate termination of its MOU and/or; (3) possible debarment or suspension.

G. The foregoing constitutes the full agreement on this subject between DHS and the Employer.

To be accepted as an E-Verify participant, you should only sign the Employer's Section of the signature page. If you have any questions, contact E-Verify at 1-888-464-4218.

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Approved by:

Employer Nextran Corporation	
Name (Please Type or Print) Vickie M Coy	Title
Signature Electronically Signed	Date 04/08/2009
Department of Homeland Security – Verification Division	
Name (Please Type or Print) USCIS Verification Division	Title
Signature Electronically Signed	Date 04/08/2009

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Information Required for the E-Verify Program

Information relating to your Company:

Company Name	Nextran Corporation
Company Facility Address	1986 West Beaver St Jacksonville, FL 32209
Company Alternate Address	1986 West Beaver St Jacksonville, FL 32209
County or Parish	DUVAL
Employer Identification Number	593139839
North American Industry Classification Systems Code	488
Parent Company	Nextran Corporation
Number of Employees	500 to 999
Number of Sites Verified for	14

Company ID Number: 204765

Are you verifying for more than 1 site? If yes, please provide the number of sites verified for in each State:

ALABAMA	3 site(s)
FLORIDA	8 site(s)
GEORGIA	3 site(s)

Company ID Number: 204765

Information relating to the Program Administrator(s) for your Company on policy questions or operational problems:

Name Lorie Flaris
Phone Number (904) 354 - 3721
Fax Number (904) 354 - 0365
Email Address lflaris@nextrancorp.com

Name Vickie M Coy
Phone Number (404) 577 - 5230 ext. 2316
Fax Number (678) 420 - 2316
Email Address vcoy@nextrancorp.com

Name Eddie Woods
Phone Number (205) 322 - 2534
Fax Number (205) 322 - 1085
Email Address ewoods@nextrancorp.com

Company ID Number: 204765

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ACCOUNT NO:
106770-BUS1

STATE OF ALABAMA

JEFFERSON COUNTY

LICENSE NO:
00202517

LICENSE YEAR
2022-2023

Expires. September 30, 2023

Issued Date: October 24, 2022
Fultondale

ISSUED TO:
NEXTRAN CORPORATION
PO BOX 820
FULTONDALE, AL 35068-0820

LOCATION:
NEXTRAN TRUCK CENTER
1801 FULTON ROAD
FULTONDALE, AL 35068

Schedule	Class of License	Lic Amt	Fee	Penalty	Citation	Interest	Total
51	Automobile Dealers	\$97.50	\$1.25	\$0.00	\$0.00	\$0.00	\$98.75

TRANSFER OF LICENSE

Evidence having been adduced before me that a bona fide sale of the business licensed by this certificate has been made by licensee, this license is transferred to said purchaser.

Kathleen D. Baxter
State Comptroller

Vernon Barnett
Commissioner of Revenue

Travis A. Hulsey
Issuing Authority

Name of Purchaser

Issuing Authority

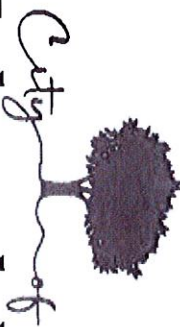
Less Exemption	\$0.00
Total	\$98.75
Mail Fee	\$0.00
Total with Mail Fee	\$98.75

EACH LICENSEE SHALL DISPLAY THE LICENSE SO ISSUED IN A
CONSPICUOUS PLACE IN THE STORE FOR WHICH SUCH LICENSE IS ISSUED

ALABAMA CODE 1975 40-12-313

RENEW LICENSE

OCTOBER 1st THROUGH OCTOBER 31st



Fulton
— A FRIENDLY CITY —

Business License

8767

THIS CERTIFIES THAT
NEXTRAN CORPORATION

of 1801 FULTON ROAD Fultondale AL 35068

THIS LICENSE MUST BE PUBLICLY DISPLAYED

License issued subject to compliance with all pertinent city codes.

LICENSE VALID ONLY AT LOCATION INDICATED. NON-TRANSFERABLE.

The Firm, Corporation, Business or Person whose name appears above, has paid the required License Fees and is authorized to engage in business in this City as Indicated below.

License Type	License Number	Issue Date	Expiration Date
Merchant Retail-9654	36579	01/27/2023	12/31/2023
Rental & Leasing, Auto, Truck-9115	36579	01/27/2023	12/31/2023
Service-9753	36579	01/27/2023	12/31/2023

Nicolas Demary

License Clerk

01/27/2023

Date

INVITATION TO BID HEAVY EQUIPMENT NOTICE OF BID OPENING

NOTICE IS HEREBY GIVEN that the Association of County Commissions of Alabama, which administers the Alabama County Joint Bid Program on behalf of Alabama's county governing bodies, shall receive and open bids for the purchase of zero (0) or more items of heavy road equipment at its office located at 2 North Jackson Street, Montgomery, Alabama, at **10:00 a.m. on Friday, October 27, 2023**. Bid specifications are available at <http://www.alabamacounties.org/heavy-equipment/> for each of the following items:

Backhoes
Track Mount Excavators
Compact Track Mount Excavators
Mini Track Excavator
Wheeled Excavators
Highway Speed Truck Excavators
Motorgraders
Heavy Duty Hydrostatic Bulldozers
Mulching Dozer
Wheel Loaders
Heavy Duty Dump Chassis'
Lowboy Tractors
Skid Steer Attachments
Asphalt Milling Attachments

Ride-on Industrial Boom Mowers
Rubber Tire Roller
7.5 Ton Single Drum Vibratory Roller
One-man Pothole Patchers
Trailer Mounted Patchers
Trailer Mount Mastic Patcher/Crack Sealer
Asphalt Storage Tanks
Half Round End Dump Trailer
Lowboy Trailers
16' Steel Dump Bodies (Automatic and Manual)

Time is of the essence in submitting bids and only bids received in the Association office by 10:00 a.m. Central Time on Friday, October 27, 2023 will be opened and considered. Bidders and any other interested individuals are invited to attend the bid opening.

NOTICE OF BID OPENING PROCEDURES

All bids for Heavy Equipment will be opened and the name(s) of the bidders read aloud on the morning of the bid opening on Friday, **October 27, 2023 at 10:00 a.m.** at 2 North Jackson Street, Montgomery, AL. The specifics of each bid submitted will be compiled by the Association staff thereafter and will be available, **upon written or emailed request**, one week after the bid opening. Requests should be emailed to jointbid@alabamacounties.org.

THE INVITATION PACKAGE

The invitation package for each item to be bid includes: this invitation to bid, the written bid specifications for the particular item of heavy road equipment, and a Bid Submittal Form to be used in submitting a bid for that particular item. Bidders should verify that they have received all pages of the invitation package. If there are any omissions, the bidder should contact **Kenya Howard** in the Association office by mail, fax, or e-mail (jointbid@alabamacounties.org) to request missing pages. It is the responsibility of the bidder to make this request in sufficient time to prepare and submit the bid in time for the bid opening. Bidders should carefully read and comply with all parts of the invitation package, including all attachments and/or any addendum.

PREPARING AND SUBMITTING BIDS

All bids must be typed or hand written in ink on the attached Bid Submittal Form. **The completed Bid Submittal Form shall be placed in front of and separated from all other documents included in the bid packet, such that it will be the first document viewed upon opening the bid packet.**

Bids submitted in pencil and bids not submitted on the Bid Submittal Form will **not** be considered. All bids shall include a current catalog or model specification document for the equipment model number being offered for consideration. Bids submitted without such documentation will **not** be considered. Only information contained on the attached Bid Submittal Form and in the model specification document will be considered in evaluating bids.

Each separate requirement in the bid specification includes a block for indicating whether or not the item bid meets the specification. The bidder shall indicate compliance with each requirement by checking "Yes" or "No" in the block to the right of each bid specification. In addition, the bidder shall indicate the page number in the supplied manufacturer's equipment literature on which compliance with the specification can be verified. Failure to complete this portion of the bid form may result in the subject bid not being considered. Additionally, all bidders are required to submit a factory build/order sheet showing all of the standard and option items for each piece of equipment bid in order to assist the bid review committee in assuring that each bid is in conformance with the required bid specifications.

Each bid for one of the heavy equipment items included in the bid package must be submitted on the Bid Submittal Form for that item and forwarded in a separate envelope with the bid item and item number clearly identified on the outside of the envelope. Envelopes containing a "no bid" shall also include the words "NO BID" on the outside of the envelope. Facsimiles and e-mails will not be accepted. Bids submitted by "Express/Overnight" services must be in a separate inner envelope or package sealed and identified as stated above. All bids must be received in the Association office prior to the bid opening. Bids received after the deadline will be returned unopened.

The County Joint Bid Program reserves the right to require a performance bond from successful bidders as permitted under Alabama law. However, **no bid bond is required for this bid offering.**

All bids should be mailed or hand-delivered to:

ATTN: Joint Bid Program
Association of County Commissions of Alabama or ACCA
2 North Jackson Street, FL 7, Montgomery, Alabama 36104 (Physical Address)
P.O. Box 5040, Montgomery, Alabama 36103 (Mailing Address)

BID SPECIFICATIONS

Please note that each piece of heavy equipment available for bid may include several different sizes and categories of machines. You should read each set of specifications very carefully as the differences vary depending upon the piece and size of equipment.

Where applicable, each bid submission shall include the separate cost of each item listed in the "Options" section of the bid specifications. However, all bids will be awarded on the basis of the **total cost of the machine with all options included**. Therefore, the "Bid Price" stated on the Bid Submittal Form must be the total cost, including the cost of all options.

Once the bids have been awarded, any county participant purchasing under this program may, at its discretion, deduct one or more of the options set out in the bid specifications, and in such event, the cost of the option as stated on the bid shall be deducted from the total cost of the machine. There shall be no other deductions and no additions made to the machine by the purchasing county or by the vendor.

Any use of specific names and/or model numbers in the attached specifications is not intended to restrict the bidder or any seller or manufacturer, but is included solely for the purpose of indicating the type, size, and quality of materials, product services, or equipment considered best adapted to the use of the counties participating in the joint bid program.

BIDDER QUALIFICATIONS

All bidders and all program participants must be in compliance with any applicable federal, state, county and municipal laws, regulations, resolutions and ordinances, including but not limited to, licensing, permitting, and taxation requirements. All bidders should be prepared to submit evidence or documentation as proof that they are properly licensed and permitted under any applicable laws upon request. Such evidence or documentation may be submitted with the bid. Additionally, all bidders shall provide proof that they are in compliance with the e-verify requirements of Alabama's Immigration Law (Ala. Code § 31-13-1 et seq., as amended by Act No. 2012-491).

BID AWARD

The Houston County Commission will serve as the awarding authority for all bids and will award all contracts at a regular meeting of the Houston County Commission. Any and all bids submitted in compliance with this invitation to bid shall be considered, and award will be made to the lowest responsible bidder meeting bid specifications as determined by the awarding authority in compliance with Alabama law. All bids will be reviewed and evaluated by a committee created for that purpose, which committee will make comments and recommendations to the awarding authority regarding the award. All factors contained in each invitation package will be evaluated in determining the successful bidder, and any omissions of the stated requirements may be cause for rejection of the bid submitted. The awarding authority reserves the right to reject any and all bids, to waive any informality in bids, and to accept in whole or in part such bid or bids solely at its discretion.

The contract period will be one year with an option to renew for a second and third year under identical price, terms, and conditions upon the mutual consent of the vendor and the awarding authority. Any renewal contract shall be approved in writing by the vendor and the awarding authority no later than 90 days prior to the expiration of the existing contract.

CONTACT REGARDING BIDS AND INVITATION

Contact initiated by a potential bidder with any county official, county employee, or member of the Association staff shall only be as specifically set out in this Invitation to Bid. Any questions related to the bid or the County Joint Bid Program shall be directed to Association staff in writing under the procedures set out in this Invitation to Bid. Additionally, a bidder may contact the Association in writing to request an appointment to review bid specifications following the bid opening. **However, there shall be no communication with any county official or county employee regarding this bid between the date of this invitation and the date of bid award.** Any contact other than as set out here shall be deemed as an attempt to unduly influence the bid award, and shall be grounds for rejection of the bid submitted by the bidder initiating such other contact.

Any questions or problems related to downloading or obtaining copies of this Invitation to Bid should be directed to **Kenya Howard** at jointbid@alabamacounties.org or **334-263-7594**.

Any other questions or requests for additional information regarding this invitation or the bid specifications shall be submitted **in writing** no later than five (5) days prior to bid opening to:

Patrick McDougald
Association of County Commissions of Alabama
P.O. Box 5040
Montgomery, Alabama 36103
E-mail: pattymackdaddy@gmail.com