

WORLD AMERICAN, WHERE QUALITY MEETS VALUE



Heavy Duty Clutch Catalog



WORLDAMERICAN.COM



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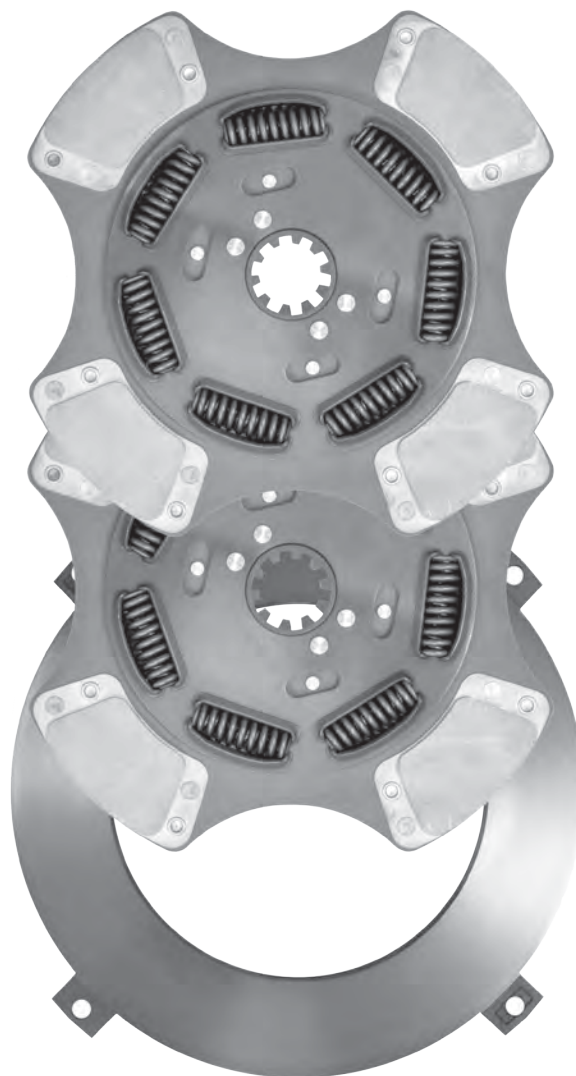


14" and 15.5" EZ-Touch and Standard Clutches

-  World American 15.5" clutch assemblies are available with 7, 8, 9 and 10-spring disc designs with torque ratings from 1250-2050 lb-ft.
-  World American 14" clutch assemblies for medium-duty applications are available with torque ratings from 620 - 1400 lb-ft.
-  World American clutches use a sealed throwout bearing, providing increased lubrication intervals and longer clutch life.
-  World American 15.5" EZ-Touch clutches employ an easy adjuster for single-motion adjustment.
-  World American clutches are serialized, tested and shipped as matched units for optimum fit and function.

How to maximize the life of your clutch:

- Select the correct clutch for the engine application. It's important to select a clutch with a torque rating that meets or exceeds the engine's peak torque.
- Maintain proper clutch adjustment.
- Properly lubricate the clutch components.
- When driving, start in lowest gear.



100% New

World American clutches are 100% new product, inside and out!

- No core charges
- Pre-adjusted
- Dual grease fittings
- Ceramic VSR buttons
- Color-coded on cover springs to easily identify plate load.
- Applicable clutch sets come with standard 4.875" width bearing housing.

Trust

All World American clutches can be trusted to provide quality performance and a long service life. World American stands behind this with a 1 year/100,000 mile warranty.

Range

World American offers a broad range of heavy duty, medium duty, construction and off-road clutches and parts, covering a wide variety of applications.

Quality

The World American line of clutches are the result of precision engineering and state-of-the-art manufacturing designed to deliver **maximum** value.



Where Quality Meets Value!

REPLACEMENT CLUTCH KITS: STANDARD

WORLD AMERICAN® #	REPLACES OEM #	PLATE LOAD	DISC TYPE	NO. OF FACINGS	NO. OF SPRINGS	CLUTCH TORQUE
WA107091-27B	107091-27B	3200	ORGANIC	ROUND	8	1250 LB-FT
WA107091-3B	107091-3B	3200	CERAMIC	4 PADDLE	8	1250 LB-FT
WA107091-80BW	107091-80B	3200	CERAMIC	4 PADDLE	8	1400 LB-FT
WA107091-81BW	107091-81B	3600	CERAMIC	4 PADDLE	8	1400 LB-FT
WA107935-51BW	107935-51B	3600	CERAMIC	4 PADDLE	8	1650 LB-FT

REPLACEMENT CLUTCH KITS: 14" STAMPED STEEL

WORLD AMERICAN® #	REPLACES OEM #	PLATE LOAD	DISC TYPE	NO. OF FACINGS	NO. OF SPRINGS	CLUTCH TORQUE
WA107237-10W (OLD #: WA107237-8)	107237-1 / 107237-8	2800	CERAMIC	3 PADDLE	8	860 LB-FT
WA107915-1 (OLD #: WA107683-5)	107915-1	3200	CERAMIC	3 PADDLE	8	620 LB-FT

REPLACEMENT CLUTCH KITS: 14" EZ TOUCH

WORLD AMERICAN® #	REPLACES OEM #	PLATE LOAD	DISC TYPE	NO. OF FACINGS	NO. OF SPRINGS	CLUTCH TORQUE
WA108034-82BW	108034-82B	3600	ORGANIC	ROUND	8	1150 LB-FT
WA108063-59A	108063-59A	3600	CERAMIC	4 PADDLE	8	1250 LB-FT
WA108050-59BW	108050-59B	3200	CERAMIC	4 PADDLE	8	1400 LB-FT

REPLACEMENT CLUTCH KITS: 15.5" EZ TOUCH

WORLD AMERICAN® #	REPLACES OEM #	PLATE LOAD	DISC TYPE	NO. OF FACINGS	NO. OF SPRINGS	CLUTCH TORQUE
WAS108391-74BW	108391-74B	3600	CERAMIC	4 PADDLE	10	1650 FT·LB
WAS108391-93HW	108391-93H	4000	CERAMIC	6 PADDLE	10	1860 LB-FT
WAS108925-82B	108925-82B	3600	CERAMIC	4 PADDLE	7	1700 LB-FT
WAS108935-15	108935-15/25	4000	CERAMIC	6 PADDLE	7	2050 LB-FT
WAS108935-51	108935-51/61	3600	CERAMIC	4 PADDLE	9	1650 LB-FT
WAS108935-51H	108935-51H/61H	4000	CERAMIC	6 PADDLE	9	2050 LB-FT
WA108391-81BW	108391-81B	3600	CERAMIC	4 PADDLE	8	1400 LB-FT
WA108935-61W	108935-61	3600	CERAMIC	4 PADDLE	9	1650 LB-FT
WAS108925-45	108925-45	4000	CERAMIC	6 PADDLE	10	2250 LB-FT



WAS108935-51H



WA107237-10W



WAS108925-82B



WA108934-81B



WA108034-82BW

* No core charges. Pre-adjusted. Dual grease fittings, Ceramic VSR buttons. Applicable clutch sets come with standard 4.875" width bearing housing. Color-coded on cover springs to easily identify plate load.

CLUTCH REPLACEMENT ACCESSORIES

WORLD AMERICAN® #	DESCRIPTION
12815	PIN
105C137	YOKE CLUTCH RELEASE
106C1047R	CLUTCH RELEASE SHAFT - CM40,49,5
106C1094R	CLUTCH RELEASE SHAFT - CM40,49,
106C1185R	CLUTCH RELEASE SHAFT - CM50,60
106C1498R	CLUTCH RELEASE SHAFT - 5000 SE
128C20	CLUTCH RELEASE SHAFT BUSHING
206SS	BEARING
274C6	PIN FOR 14" & 15-1/2"
306SS	BEARING
CLUTCH ADJUSTER	CLUTCH ADJUSTER FOR ALL 15" CLUTCHES
CLUTCH BRG: THROW OUT	CLUTCH THROWOUT BEARING ASSEMBLY
PT2538	CLUTCH BUSHING
S1659	INPUT SHAFT
S2822	INPUT SHAFT
WA3036011	FLYWHEEL HOUSING
WA06-01093	CROSS SHAFT (LONG) THREADED SPLINES (PETERBILT 38J)
WA2005406C1	CROSS SHAFT (LONG), NO SPLINES, (IHC/NAV)
WA572107C91	SLEEVE & BEARING ASSEMBLY (IHC/NAV)
WAK210-883	CROSS SHAFT (LONG) NO SPLINES (KENWORTH)



105C137



106C1498R



106C1094R



106C1047R



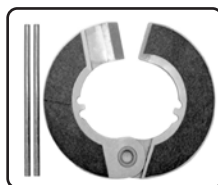
106C1185R



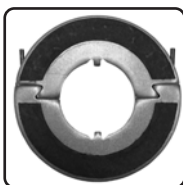
128C20

REPLACEMENT CLUTCH BRAKES

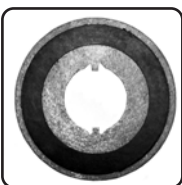
WORLD AMERICAN® #	DESCRIPTION
SCB200	CLUTCH BRAKE: 2", (2-PIECE, HINGED)
127175	CLUTCH BRAKE: 1-3/4", (HINGED)
127190	CLUTCH BRAKE: 1-3/4", (2 PIECE)
127200	CLUTCH BRAKE: 2", (2PIECE)
127740X	CLUTCH BRAKE: 1-3/4", (SINGLE PIECE)
127760X	CLUTCH BRAKE: 2", (SINGLE PIECE)



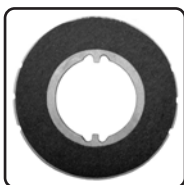
SCB200



127200



127740X



127760X

REPLACEMENT FLYWHEELS & RING GEARS: CATERPILLAR®

WORLD AMERICAN® #	DESCRIPTION	REPLACES
WA1265875	FLYWHEEL 3116, 3126 7" BORE, 13" & 14" O.D., 134T FLAT	1265875 168001 1013246 678978050343 V3018S
WA2569653	FLYWHEEL C15, C16, C18 10" BORE, 15" O.D., 113T FLAT	2569653 168009 2441636 678978050664
WA4P4797	FLYWHEEL 3406, 3406E 10" BORE, 15" O.D., 113T FLAT	4P4797 168003 678978050091 V3017S
WA4P8515	FLYWHEEL C12, 3176 FLAT	4P8515 2569652 V3020S
WA9Y9311	FLYWHEEL 3208 7" BORE, 14" O.D., 134T TOWER	9Y9311 168006 678978051753 V3016S
WA7W5095	RING GEAR 3126, 134T	7W5095
WA4N2514	RING GEAR C15, 113T	4N2514
WA1631387	RING GEAR 3126B	1631387
WA2569651	RING GEAR 113T	2569651

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REPLACEMENT FLYWHEELS & RING GEARS: CUMMINS®

WORLD AMERICAN® #	DESCRIPTION	REPLACES
WA3680922	FLYWHEEL ISX SIGNATURE 600 10" BORE, 15" O.D., 103T FLAT	3680922 168109 678978051760 V3013S
WA3906807	FLYWHEEL 8.3L C SERIES (6CT) 7" BORE, 14" O.D., 173T FLAT	3906807 168110 V3007S
WA3912913	FLYWHEEL 8.3L C SERIES (6CT) 7" BORE, 14" O.D., 138T THIN RING, FLAT	3912913 168111 678978050350 V3009S
WA3921263	FLYWHEEL 5.9L B SERIES (6BT) 7" BORE, 14" O.D., 173T FLAT	3921263 168112 678978050367 V3006S
WA3922645	FLYWHEEL 8.3L C SERIES (6CT) 7" BORE, 14" O.D., 138T FLAT	3922645 168113 678978051784 V3008S
WA4797	RING GEAR	4797 060070 44329
WA3903309	RING GEAR 4B, 4BT, 4BTA 3.9L	3903309
WA3680913	RING GEAR	3680913
WA3016495	FLYWHEEL NT855, NT88, N14 POT/CUP 8" BORE, 14" O.D., 103T CUP	3016495 060045 678978051746 V3000S
WA3021660	FLYWHEEL, 15 1/2" NT855/N14, NT88 FLAT	3021660 168103 060046 V3001S
WA3042787	FLYWHEEL L10, M11 - POT/CUP 7 1/4" BORE, 14" O.D., 103T	3042787 168106 060050 678978052729 V3003S
WA3071535	FLYWHEEL N14, NT855, NT88 10" BORE, 15" O.D., 103T FLAT	3071535 168107 678978050107 V3002S
WA3071615	FLYWHEEL L10, M11 10" BORE, 15" O.D., 103T FLAT	3071615 168108 678978050114 V3005S

REPLACEMENT FLYWHEELS & BULL GEARS: DETROIT DIESEL®

WORLD AMERICAN® #	DESCRIPTION	REPLACES
WA23509709	FLYWHEEL 60 SERIES 10" BORE, 15" O.D., 118T FLAT	23509709 168202 660045 678978051739 V3022S
WA23514177	FLYWHEEL 60 SERIES FLAT	23514177
WA23513559	BULL GEAR/GEAR & HUB ASSEMBLY D-DEC II & III 60 SERIES	23513559 R23513559

REPLACEMENT FLYWHEELS & RING GEARS: FORD®/STERLING®

WORLD AMERICAN® #	DESCRIPTION	REPLACES
WAE7HZ6375A	FLYWHEEL 6.6L, 7.8L 7 1/2" BORE, 14" O.D., 138T	E7HZ6375A 168300 678978051807
WAE6HZ6384A	RING GEAR 6.6L, 7.8L	E6HZ6384A

REPLACEMENT FLYWHEELS & RING GEARS: MACK®

WORLD AMERICAN® #	DESCRIPTION	REPLACES
WA530GB3145BM	FLYWHEEL E7 FLAT	530GB3145BM EFW-3997 V3026S 530GB544M
WA530GB3170M	FLYWHEEL E-TECH 10" BORE, 15" O.D., 117T	530GB3170M 168602 EFW-3843 678978051814 V3027S
WA673GB222	RING GEAR 118T	673GB222 ERG-3990 673GB243
WA673GB35	RING GEAR 117T	673GB35 ERG-3842

REPLACEMENT FLYWHEELS & RING GEARS: NAVISTAR®/IHC®

WORLD AMERICAN® #	DESCRIPTION	REPLACES
WA1809144C91	FLYWHEEL 6.9L/7.3L 7" BORE, 13" O.D., 137T FLAT	1809144C91 168800 678978051821 V3031S
WA1810855C93	FLYWHEEL DT466, A, B, C 7" BORE, 14" O.D., 138T FLAT	1810855C93 168801 460045 678978051159 V3028S
WA1818214C91	FLYWHEEL 7.3L 444 7" BORE, 13" & 14" O.D., 137T FLAT	1818214C91 168802 YC3Z-6375-AA 678978051166 V3030S
WA1821915C91	FLYWHEEL DT466 E 7" BORE, 14" O.D., 138T FLAT	1821915C91 1817314C91 1821916C1 678978051258 V3029S
WA1815440C1	RING GEAR	1815440C1 460050
WA1800777C1	RING GEAR	1800777C1

INSTALL KITS

WORLD AMERICAN® #	DESCRIPTION
K2468	INSTALL KIT
K3600	INSTALL KIT



K2468



K3600

CLUTCH INSTALLATION

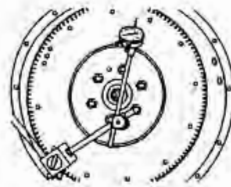
STEP 1: MEASURE

Measure Engine Flywheel Housing & Flywheel

Engine flywheel housing and flywheel must meet these specifications or there will be premature wear. Remove old pilot bearing. All guage contact surfaces must be clean and dry. Use a dial indicator and check the following:

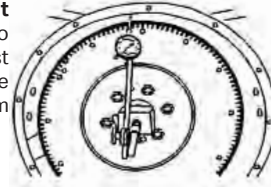
Flywheel Face Runout

Secure dial indicator base to flywheel housing face. Put guage finger in contact with flywheel face near the outer edge. Rotate flywheel one revolution. Maximum runout is .008" (.20 mm).



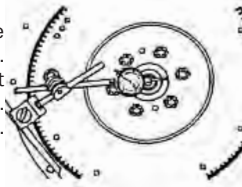
Flywheel Housing I.D. Runout

Secure dial indicator base to crankshaft. Put guage finger against flywheel housing pilot I.D. Rotate flywheel one revolution. Maximum runout is .008" (.20 mm).



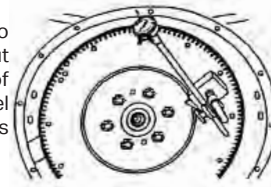
Pilot Bearing Bore Runout

Secure dial indicator base to flywheel housing face. Position guage finger so that it contacts pilot bearing bore. Rotate flywheel one revolution. Maximum runout is .005" (.13 mm).



Flywheel Housing Face Runout

Secure dial indicator base to flywheel near the outer edge. Put guage finger in contact with face of flywheel housing. Rotate flywheel one revolution. Maximum runout is .008" (.20 mm).



STEP 2: INSTALL CLUTCH TO FLYWHEEL

For 15.5" Clutch ONLY:

- Measure the flywheel bore. Use the Eaton Fuller Easy - Pedal Clutch Selector guide to verify that the damper will fit into the flywheel bore.
 - 7.0" (8-spring)
 - 8.5" (10-spring)
 - 10.0" (6-spring, 7-spring & Mack® 9 spring)
- Insert aligning tool through bearing.
- Install disc onto aligning tool. Follow the orientation instructions on the disc.
- Install intermediate plate into slots on the clutch cover. Flywheel side must face the flywheel.
- Install second disc onto aligning tool. Follow the orientation instructions on the disc.
- Install two 7/16" x 14 UNC x 5" studs into upper mounting holes. Install assembled clutch.
- Install lock washers and mounting bolts (7/16" x 14 UNC x 2-1/4" grade 5) finger tight. Replace studs with lockwashers and bolts.
- Progressively tighten mounting bolts in a crisscross pattern starting with a lower bolt. Torque to 40-50 ft.-Lbs. (54-68 N-m).
- Verify bearing position is 3/8" - 5/8" (9.5-15.9mm) from cover.
- Remove the aligning tool. Be sure shipping blocks are removed.
- Use a 1/4" (6mm) flat nose punch to lightly tap four pins toward flywheel.

IMPORTANT!

Use the Eaton Fuller Easy Pedal Clutch Selector Guide (CLSL-XXXX) to make sure you have the right clutch!

CAUTION!

An assembled clutch weighs about 150 lbs. (68 kg). Avoid the risk of injury by using proper equipment when lifting a clutch.

For 14" Clutch ONLY:

- Ensure the correct flywheel depth is 2-15/16".
- Put front disc into flywheel. Flywheel side must be toward engine. Use new slots to put intermediate plate on pins.
- Install three equally spaced anti-rattle springs.
- Turn intermediate plate left. Use .006" feeler guage to check left pin clearance on all 6 drive pins. NOTE: Straighten pins to increase clearance. Do not file slots.
- Install two 3/8" x 2-1/2" studs into upper mounting holes.
- Install disc into flywheel. Follow the orientation instructions on the disc.
- Install intermediate plate onto drive pins.
- Install second disc into flywheel. Follow the orientation instructions on the disc.
- Insert aligning tool through discs.
- Slide cover over aligning tool.
- Install lock washers and mounting bolts (3/8" x 1-1/4" grade 5) finger tight. Replace studs with lockwashers and bolts.
- Progressively tighten mounting bolts in a crisscross pattern starting with a lower bolt. Torque to 25-35 ft.-lbs. (34-47 N-m).
- Remove the aligning tool. Be sure shipping blocks are removed.

CLUTCH INSTALLATION

STEP 3: INSTALL TRANSMISSION

Check Transmission for Wear
Replace any worn components.

Transmission Bearing Retainer Cap

A worn/rough bearing retainer cap may cause the clutch break to wear prematurely.

Release Yoke

Worn fingers can cause bushing wear and yoke interference when the pedal is down.

Input Shaft

Wear (roughness) can reduce sleeve bushing life and cause it to come out.

Cross Shaft and Bushings

Excessive wear at these points can cause side-loading on the sleeve bushing, bushing failures and yoke bridge contact with the clutch when the pedal is down.

Input Shaft Splines

Any wear on the splines will prevent the driven discs from sliding freely, causing poor clutch release (clutch drag). Slide discs full length of shaft to check for twisted shaft splines.

Clutch Brake

Replace.

Measure Input Shaft

Length should be 8.657" (219.89 mm) nominal and not greater than 8.71" (221.23 mm). Ref. 1990 SAE handbook 4:36.106. Replace transmission bearing retainer cap if length is greater than 8.71" (219.89 mm).

Fasten Transmission to Flywheel Housing

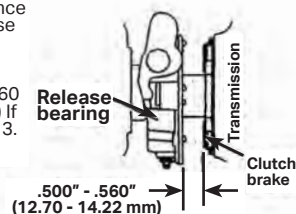
Transmission installation and clutch set-up procedures are the same for the 14" & 15.5" clutch.

- 1 Put transmission in gear. Be sure new clutch brake has been installed.
- 2 Make sure that the yoke fingers remain in the up position until they are over the release bearing housing.
- 3 Position transmission so it is square to and aligned with engine.
- 4 Mesh splines by moving and rotating the output shaft. Do not use excessive force. Do not let the transmission hang unsupported in the discs.
- 5 Install mounting bolts & torque to OEM specs.

STEP 4: SET-UP & LUBRICATE

Adjust Bearing Position

- 1 Measure the distance between the release bearing and the clutch brake. The correct distance should be .500" - .560" (12.70 - 14.22 mm). If correct go to Step 3.



- 2 To change bearing position, push and hold pedal while pushing and turning adjusting nut.

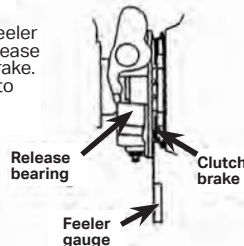
- If measurement was more than .560" (14.22 mm), turn adjusting nut clockwise.
- If measurement was less than .500" (12.77 mm), turn adjusting nut counterclockwise.



Verify Clutch Brake Squeeze

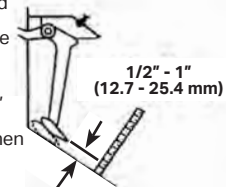
- 3 Insert .010" (.25 mm) feeler gauge between the release bearing & the clutch brake. Press the pedal down to clamp the gauge.

- If the gauge does not clamp, adjust linkage to achieve clutch brake squeeze, then recheck Step 3.



- 4 Slowly let up on the pedal and check the pedal position at the moment the gauge can be removed.

- If the pedal is less than 1/2" (12.7mm) or more than 1" (25.4 mm) from the floor when the gauge can be removed, readjust the linkage. (Repeat Steps 3 and 4.)

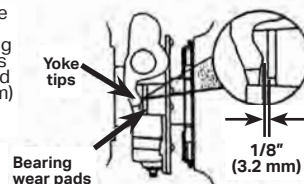


Verify Free-Play

- 5 Check distance between yoke tips and bearing wear pads. This distance should be 1/8" (3.2 mm)



Do not change bearing position.



- 6 To change the yoke finger and bearing wear pads clearance, adjust the upper pedal stop to raise or lower the pedal in the cab.



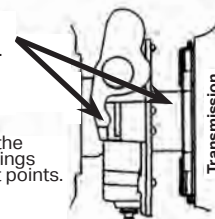
Lubricate

Use a lithium soap base E.P. (Extreme Pressure) grease with a minimum of 325°F (163°C) operating range meeting N.L.G.I. grade 1 or 2 specs.

Apply ample grease that visibly exits the opening and contacts the transmission shaft. This will lube the clutch brake when the pedal is pressed.

- 8 Apply grease to the input shaft and yoke fingers.

- 9 Apply grease to the cross shaft bushings and linkage pivot points.



WARRANTY

Midwest truck & auto parts, Inc.® warrants that all new clutches and clutch parts, except as otherwise provided herein, will be free from defects in material and workmanship for 1 year or 100,000 miles, whichever occurs first. This warranty will not apply if any part has been modified, damaged or is defective as a result of any accident, misuse, use in competitive applications, improper installation, negligence, repair or alteration.

Competition parts are sold "as is", without any warranty whatsoever. Implied warranties, including warranties of merchantability or fitness for a particular purpose, are excluded. The entire risk as to the quality and performance of such parts is with the buyer. Should such parts prove defective following their purchase, the buyer, and not the manufacturer, distributor or retailer, assumes the entire cost of all necessary servicing or repair.

The Midwest Truck & Auto Parts, Inc.® parts warranty is voided if the part is used for competition or if the part has been modified.

To make a warranty claim on parts used in non-competitive applications, distributors should contact a Midwest Truck and Auto Parts, Inc.® distributor for a return goods authorization (RGA) number. No returns will be accepted without an RGA number. All parts should be returned to Midwest Truck & Auto Parts, Inc.®, freight prepaid.

Midwest Truck & Auto Parts, Inc.® will issue a credit equal to the original purchase price for all defective parts covered by this warranty. In the event that a warranty claim cannot be substantiated by Midwest Truck & Auto Parts, Inc.®, the parts will be returned to the customer, freight collect.

This warranty is in lieu of all other warranties, expressed or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose, and in no event will Midwest Truck and Auto Parts, Inc.® be liable for incidental, special or consequential damages including, but not limited to, any labor costs.

