

# 2019 Powertrain Components & Remanufactured Assemblies











Six Good Reasons to Choose Ford Parts and Motorcraft<sup>®</sup> Powertrain Components and Remanufactured Powertrain Assemblies

- Comprehensive warranty Ford remanufactured gas engines and transmissions are covered by a 36-month/unlimited-mile warranty. Remanufactured diesel engines are covered by a 24-month/unlimited-mile warranty. Ford and Motorcraft® powertrain components feature a 12-month/12,000-mile limited warranty. There are **no commercial/fleet exceptions** for any of these. All warranties are backed by Ford Motor Company and are supported by over 3,000 Ford and Lincoln Dealerships nationwide. See dealer for limited-warranty details.
- 2 Original equipment quality Ford Parts and Motorcraft<sup>®</sup> powertrain products meet Ford Motor Company quality standards and are designed specifically to fit each individual make, model and year vehicle.
- **3** Extensive application coverage Ford Parts and Motorcraft<sup>®</sup> offer extensive application coverage with timely delivery same day or next day for Ford and Lincoln vehicles you service.
- **4 Competitively priced** Ford Parts and Motorcraft<sup>®</sup> powertrain components and remanufactured powertrain assemblies are competitively priced. Since they are the only Ford-recommended powertrain products on the market, they have a value that's hard to match.
- **5** "No-risk" core return policy Provides 100 percent core credit regardless of damage or quality of returned core, as long as the proper return guidelines are followed. This policy provides confidence to our customers when quoting repairs with Ford parts.
  - Assistance center Our Powertrain Assistance Center provides sales, technical assistance and warranty support. Call 1-800-392-7946.

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The quality and performance of Ford Parts and Motorcraft<sup>®</sup> powertrain components and remanufactured powertrain assemblies can reduce potential repeat repairs, which can save you and your customers time and money, and help to increase your customer satisfaction and loyalty.



## FORD AUTHORIZED DISTRIBUTORS

#### **AER Sales LP**

2999 Miller St. San Leandro, CA 94577 Telephone: (510) 483-5092

7103 E. 47th Ave. Denver, CO 80216 Telephone: (303) 399-3673 FAX: (303) 355-8800

144 Makaala St. Hilo, HI 96720 Telephone: (808) 966-5444 FAX: (808) 966-6566

1049 Kikowaena Place Honolulu, HI 96819 Telephone: (808) 833-9999 FAX: (808) 833-2833

231 Papa St. Kahului, HI 96732 Telephone: (808) 870-3487 FAX: (808) 877-1443

4161 Dixon Ave. Des Moines, IA 50313 Telephone: (515) 262-8553 FAX: (515) 262-0883

3301 Corporate Dr. Joliet, IL 60431 Telephone: (815) 773-9435 FAX: (815) 773-9463

4300 Round Lake Road W Unit 200 Arden Hills, MN 55112 Telephone: (651) 209-6042 FAX: (651) 209-6044

#### **AER Sales LP (Cont'd)**

8250 N.E. Underground Dr. Pillar 153 Kansas City, MO 64161 Telephone: (816) 471-4182 FAX: (816) 452-4180

600 S. Theresa Ave. St. Louis, MO 63103 Telephone: (800) 999-1315 FAX: (314) 535-0812

5503 F Street Omaha, NE 68117 Telephone: (402) 341-9742 FAX: (402) 341-9743

11 Chapin Rd., Unit A Pine Brook, NJ 07058 Telephone: (973) 575-0251 FAX: (973) 575-7646

8333 Washington Place N.E., Ste. E Albuquerque, NM 87113 Telephone: (505) 342-1606 FAX: (505) 342-1669

5220 N.E. 152<sup>nd</sup> Place Portland, OR 97230 Telephone: (888) 577-5237 FAX: (508) 258-8422

1605 Surveyor Blvd. Carrollton, TX 75006 Telephone: (972) 418-6499 FAX: (972) 417-3150

3700 Claymoore Pk Dr., Ste. 160 Houston, TX 77043 Telephone: (713) 895-0475 FAX: (713) 895-9644

#### AER Sales LP (Cont'd)

5915 Corridor Parkway Schertz, TX 78154 Telephone: (210) 651-8280 FAX: (210) 651-6207

2233 S. 1800 West West Valley City, UT 84119 Telephone: (801) 972-3332 FAX: (801) 975-1005

18637 72nd Ave. S. Kent, WA 98032 Telephone: (888) 570-6237 FAX: (253) 437-1575

#### **Factory Motor Parts**

300 Calais Dr. Anchorage, AK 99503 Telephone: (907) 279-4099 FAX: (907) 279-2015

#### **Fred Jones Enterprises**

1002 South 56 Ave. Phoenix, AZ 85043 Telephone: (602) 269-3232 FAX: (602) 272-8457

1040 S. Rockefeller Drive Ontario, CA 91761 Telephone: (562) 692-9034 FAX: (562) 699-6931

550 Gills Drive Orlando, FL 32824 Telephone: (407) 251-6505 FAX: (407) 251-6508

Visit www.fordparts.com for your nearest dealer.

## FORD AUTHORIZED DISTRIBUTORS

#### Fred Jones Enterprises (Cont'd)

5286 Highway 85, Suite 200 Forest Park, GA 30297 Telephone: (404) 209-8556 FAX: (404) 209-8559

545 Ford Ave. Jackson, MS 39209-2740 Telephone: (601) 352-7750 FAX: (601) 352-8713

4444 South Blvd. Charlotte, NC 28209-2673 Telephone: (704) 525-9900 FAX: (704) 523-2215

4050 W Sunset Rd., Ste. H Las Vegas, NV 89118 Telephone: (562) 692-9034 FAX: (702) 914-0453

6200 Southwest 29th St. Suite A Oklahoma City, OK 73179 Telephone: (800) 927-7845 FAX: (405) 350-4881

7145 Industrial El Paso, TX 79915-1224 Telephone: (915) 860-8201 FAX: (915) 860-8273

#### Holman

3645 Developers Rd. Indianapolis, IN 46227 Telephone: (317) 781-9373 FAX: (317) 781-3501

444 Whitney St. Northborough, MA 01532 Telephone: (508) 351-8650 FAX: (800) 800-5984

#### Holman (Cont'd)

8242 Sandy Ct. Jessup, MD 20794 Telephone: (301) 499-0988 FAX: (800) 767-4985

20501 Pennsylvania Rd., Ste. 140 Brownstown Township, MI 48192 Telephone: (734) 284-1625 FAX: (734) 284-0901

9040 Burrough Dover Ln. Pennsauken, NJ 08110 Telephone: (856) 662-3811 FAX: (856) 663-1745

1901 Lemoyne Ave. Syracuse, NY 13208 Telephone: (315) 455-7414 FAX: (315) 454-9534

Tri County Commerce Park Building 3/3A 2511 Lovi Road Freedom, PA 15042 Telephone: (412) 749-7960 FAX: (412) 749-7964

Visit www.fordparts.com for your nearest dealer.



# "No-Risk" Core Return Policy

Our "No-Risk" Core Return policy provides 100% core credit regardless of damage or quality of returned core. This policy provides our customers confidence when quoting repairs with Ford parts.

When returning core, these guidelines must be followed:

- Returned core is the same part as the assembly purchased
- Core is 100% complete with all parts attached and all fluids drained and is returned in original package





#### LIMITED WARRANTY STATEMENT (FOR RETAIL SALES ON OR AFTER 9/1/2010) Ford New and Remanufactured Transmissions and Gas Engines

Ford Motor Company, The American Road, Dearborn, MI 48121 ("Ford") provides the following Limited Warranty on Ford New and Remanufactured Transmissions and Gas Engines to Ford and Lincoln Dealers (each being a "Dealer") or general Installers (each being an "Installer"). This Limited Warranty provides Ford will credit the Dealer or Installer for repairing or replacing, at Ford's option, any Ford Transmission or Gas Engine sold by Ford in the United States, for installation in the United States, in a Ford or Lincoln vehicle that was sold, registered/licensed, and operated in the United states, that is found to be defective in factory-supplied material or workmanship subject to the following terms, conditions and limitations:

Vehicle Owner: To obtain warranty service, please return your vehicle to any Ford or Lincoln Dealership or return to the Installer who originally installed the Ford Gas Engine or Transmission Assembly in your vehicle. You must have <u>one</u> of the following items:

- Vehicle Owner assembly installation repair order which includes Vehicle Identification Number (VIN), date of installation, assembly part number, and odometer reading
- · Dealer Over-the-counter Invoice documenting date of purchase, assembly part number, & VIN
- Your powertrain was registered by a Ford or Lincoln Dealer.

#### Gas Engine Long Block Assemblies (6006/6007/6V006/6V012) and Transmission Assemblies (7000/7V000/7002/7003)

- For 36 months from warranty start date (unlimited miles), Ford will cover 100% of all parts and labor at approved warranty reimbursement rates
- If installed by a Dealer, reasonable towing charges (up to 35 miles or to the nearest Dealer) are covered only if the vehicle is not covered under another towing insurance coverage
- Excludes gas engine short blocks (6009)

#### Warranty Start Date for Ford New or Remanufactured Transmissions and Gas Engines

- If <u>Dealer-installed</u>, the Warranty Start Date is the date of installation.
- If sold Over-the-counter to a vehicle owner, the Warranty Start Date is the date of sale.
- If sold <u>Over-the-counter to a fleet, general installer or wholesaler</u>, the Warranty Start Date is the date the assembly is installed (could be later than the date of sale).

#### Limitations to the Warranty

- The following limitation applies to the products covered by this Limited Warranty:
- Towing charges are not reimbursable for Ford Transmissions and Gas Engines sold over-the-counter by a Dealer or Installer

## How to obtain Limited Warranty coverage for Ford Transmissions and Gas Engines sold over-the-counter by a Dealer or Installer:

This statement applies to over-the-counter customers of a Dealer, such as a vehicle owner, independent repair facility, wholesaler, or fleet customer.

The Dealer or Installer can claim both parts and labor under the Limited Warranty if the vehicle owner, at his/her option,

- · Returns the vehicle to the Installer (from which the assembly was purchased) or to any Dealer for repairs, or
- Returns the Ford New or Remanufactured Transmission or Gas Engine to the Installer (from which the assembly was purchased) or to any Dealer for repairs

#### NOTES on obtaining Limited Warranty coverage for Ford Transmissions and Gas Engines:

- This Limited Warranty may be honored by the original Installer or any Dealer (even though that particular Dealer was not the original purchaser/seller of the product)
- In order for the Dealer or Installer to claim under the Limited Warranty, the Installer or vehicle owner (whether original vehicle owner or subsequent transferee) must provide the Dealer the following information when repairs are requested:
- · Authorization code from the Powertrain Assistance Center (PAC) @ 800-392-7946
- · A copy of the original vehicle owner's assembly installation repair order
- Only new Ford Original Equipment, Ford Authorized Remanufactured, or other parts or assemblies authorized by Ford may be used to complete covered warranty repairs
- Installer labor reimbursement is calculated using Ford Labor Times Standard hours multiplied by the selling Dealership's warranty labor rate or the Installer's actual labor total, whichever is less
- · Diagnostic steps taken to determine cause of warrantied concern with diagnostic results must be clearly documented on Installer
- repair order. (Warranty parts and labor reimbursement requests must be supported by diagnostic labor steps and test results)
- All parts replaced under warranty must be returned to your selling Dealer

THIS LIMITED WARRANTY DOES NOT COVER FORD REMANUFACTURED TRANSMISSIONS AND GAS ENGINES THAT FAIL DUE TO ABUSE, MISUSE, NEGLECT, ALTERATION, ACCIDENT, RACING, OR PARTS AND ACCESSORIES INSTALLED IN VEHICLES OTHER THAN THOSE LISTED IN FORD AUTHORIZED CATALOGS INCLUDING OTHER FORD MOTOR COMPANY BRANDS, OR THE USE OF NON-FORD PARTS, OR LACK OF PROPER MAINTENANCE. THIS LIMITED WARRANTY DOES NOT COVER PARTS WHICH ARE REPLACED AS PART OF NORMAL MAINTENANCE. THIS LIMITED WARRANTY DOES NOT COVER REPEAT REPAIRS PERFORMED AS A RESULT OF A MISDIAGNOSIS OR IMPROPER PRIOR REPAIR. TO THE EXTENT ALLOWED BY LAW, LOSS OF TIME, INCONVENIENCE, LOSS OF THE USE OF THE VEHICLE, COMMERCIAL LOSS, AND INCIDENTAL AND CONSEQUENTIAL DAMAGES ARE NOT COVERED. THERE IS NO OTHER EXPRESS OR IMPLIED WARRANTY ON THESE FORD NEW AND REMANUFACTURED TRANSMISSIONS AND GAS ENGINES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT ALLOWED BY LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS IS LIMITED TO THE DURATION OF THIS WRITTEN LIMITED WARRANTY.

To retain the safety and dependability built into this product, it is essential that your Ford Remanufactured Transmission or Gas Engine receives the scheduled maintenance at the recommended intervals contained in your vehicle Owner's Manual/Maintenance Schedule.





## LIMITED WARRANTY STATEMENT

#### Ford and Motorcraft<sup>®</sup> Remanufactured Diesel Engines

Ford Motor Company, The American Road, Dearborn, MI 48121 ("Ford") provides the following Limited Warranty on Ford and Motorcraft Remanufactured Diesel Engines to Ford and Lincoln Dealers (each being a "Dealer") or general Installer's (each being an "Installer"). This Limited Warranty provides that Ford will credit the Dealer or Installer for repairing or replacing, at Ford's option, any Ford or Motorcraft Remanufactured Diesel Engine sold by Ford that is found to be defective in factory-supplied material or workmanship subject to the following terms, conditions and limitations:

#### Retail Customers: To obtain warranty service, please return your vehicle to any Ford and Lincoln Dealership or return to the Installer who originally installed the Ford or Motorcraft Diesel Engine Assembly in your vehicle. Please have your original dated receipt for installation date verification.

Complete Diesel Engine (6007/6V007) and Long Block (6006/6V006) Assemblies

- 24 months from warranty start date (unlimited miles). Ford will cover 100% of all parts and labor at approved warranty reimbursement rates
- If installed by a Dealer, reasonable towing charges (up to 35 miles or to the nearest Dealer) are covered only if the vehicle is not covered under another towing insurance coverage

#### Diesel Engine Stripped Long Blocks (6V012) and Short Blocks (6009/6V009)

12 months from warranty start date (unlimited miles). Ford will cover 100% of all

- parts and labor at approved warranty reimbursement rates If installed by a Dealer, reasonable towing charges (up to 35 miles or to the nearest Dealer) are covered only if the vehicle is not covered underanother
- towing insurance coverage

#### Warranty Start Date

- Ford and Motorcraft Remanufactured Diesel Engines and Components installed by the Dealer or Installer-Warranty begins on the date of installation Ford and Motorcraft Remanufactured Diesel Engines and Components sold by
- Dealer or Installer over-the-counter or to a retail purchaser-on the date of sale
- Limitations to the Warranty
- The following limitation applies to the products covered by this Limited Warranty: Towing charges are not reimbursable for Ford and Motorcraft Remanufactured Diesel Engines sold over-the-counter by a Dealer or Installer.

## How to obtain Limited Warranty coverage for Ford and Motorcraft Remanufactured Diesel Engines sold over-the-counter by a Dealer or

This statement applies to over-the-counter customers of a Dealer or Installer, such as a retail customer or fleet customer

- The Dealer or Installer can claim both parts and labor under the Limited Warranty if the retail customer, at his/her option:
- Returns the vehicle to the Installer (from which the assembly or component was purchased) or to any Dealer for repairs, or
- Returns the Ford or Motorcraft Remanufactured Diesel Engine to the Installer (from which the assembly or component was purchased) or to any Dealer for repairs

#### NOTES:

- The original Installer or any Dealer (even though that particular Dealer was not the original purchaser/seller of the product) may claim under this Limited Warranty
- In order for the Dealer or Installer to claim under the Limited Warranty, the Dealer, Installer or customer (whether original customer or subsequent transferee) must provide the original owner's repair order or sales slip when repairs are requested Only new Ford Original Equipment or Ford authorized remanufactured parts or assemblies may be used to complete covered warranty repairs
- Installer labor reimbursement is calculated using Ford Labor Times Standard hours multiplied by the selling dealership's warranty labor rate, or the Installer's actual labor total, whichever is less
- Diagnostic steps taken to determine cause of warrantied concern with diagnostic results must be clearly documented on Installer repair order. (Warranty parts and labor reimbursement requests must be supported by diagnostic labor steps and test results)
- All parts replaced under warranty must be returned to your selling Dealer

THIS LIMITED WARRANTY DOES NOT COVER FORD OR MOTORCRAFT REMANUFACTURED DIESEL ENGINES THAT FAIL DUE TO ABUSE, MISUSE, NEGLECT, ALTERATION, ACCIDENT, RACING, OR THE USE OF NON-FORD PARTS, LACK OF PROPER MAINTENANCE OR THAT ARE INSTALLED IN VEHICLES OTHER THAN THOSE LISTED IN FORD AUTHORIZED CATALOGS.

THIS LIMITED WARRANTY DOES NOT COVER PARTS WHICH ARE REPLACED AS PART OF NORMAL MAINTENANCE.

THIS LIMITED WARRANTY DOES NOT COVER REPEAT REPAIRS PERFORMED AS A RESULT OF A MISDIAGNOSIS OR IMPROPER PRIOR REPAIR.

TO THE EXTENT ALLOWED BY LAW, LOSS OF TIME, INCONVENIENCE, LOSS OF THE USE OF THE VEHICLE, COMMERCIAL LOSS, AND INCIDENTAL AND CONSEQUENTIAL DAMAGES ARE NOT COVERED.

THERE IS NO OTHER EXPRESS OR IMPLIED WARRANTY ON THESE FORD AND MOTORCRAFT REMANUFACTURED DIESEL ENGINES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

TO THE EXTENT ALLOWED BY LAW, ANY IMPLIED WARRANTY OF WERCHANTABILITY OR FITNESS IS LIMITED TO THE DURATION OF THIS WRITTEN LIMITED WARRANTY

## Warranty Reimbursement for Ford and Motorcraft Remanufactured Diesel Engines Sold Over-the-Counter

#### Dealership actions required for assemblies that were sold Over-The-Counter and replaced/installed at a dealership

- Effective with repairs dated August 1, 2005, and later when an assembly that was sold OTC is brought to a Ford or Lincoln dealership for assembly replacement, dealers not on Reduced Warranty Requirements must obtain prior approval before replacing Ford and Motorcraft Remanufactured Diesel Engines under OTC Service Part Warranty.
- Dealers can obtain prior approval by completing the Powertrain Approval form via the Professional Technician Society (PTS) website OR by contacting the Technical Hotline at (800) 826-4894 and selecting option #2 "Engine and Transmission Exchange Prior Approval".
- Reduced Warranty Requirement dealers are exempt from this requirement for REPLACEMENTS DONE IN THE DEALERSHIP for one year, but will be subject to review for inclusion in the Prior Approval process at the end of one year.

#### **Dealer Reimbursement**

- In order for a Dealer or Installer to claim under the Limited Warranty, the Dealer, Installer or customer (whether original customer or subsequent transferee) must provide the original owners repair order or sales slip that includes the VIN of the service vehicle, the current mileage of the service vehicle, the serial number of the part being replaced, and the labor amount charged for the replacement.
- · Engine assemblies and components found defective before installation on the hicle or before sale over-the-counter are to be returned for credit to your selling Ford Authorized Distributor for Powertrain Products.
- Dealers will be reimbursed for parts and labor (if applicable) at warranty rates Reasonable removal and reinstallation labor is reimbursed when prior authorization is obtained.
- Vehicle towing required as a result of the failure of an assembly or part sold overthe-counter is not covered.

#### Dealership actions required for replacement of assemblies sold Over-The-Counter but NOT repaired/installed at a dealership.

- Ensure the OTC customer completes the Assembly Replacement Worksheet and calls the Powertrain Assistance Center (800-3927946) for an authorization number when requesting replacement of an assembly.
- DO NOT GIVE REPLACEMENT ASSEMBLIES WITHOUT THE POWERTRAIN ASSISTANCE CENTER AUTHORIZATION NUMBER.
- For over-the-counter sales, the selling dealer is responsible for submitting a warranty claim on behalf of the over-the-counter customer, and reimbursing the customer for the repair.

#### Customer (retail and/or independent installer) actions required for Warranty Reimbursement for assemblies sold Over-The-Counter

- The over-the-counter customer (retail customer, fleet customer, or general installer) can, at their option:
- Return the vehicle to the Dealer from which the assembly was purchased for repairs during regular business hours for repair by the Dealer, or
- 2) Return the defective Ford or Motorcraft remanufactured diesel engine to the Dealer (from which the assembly was purchased) during regular business hours for repair by the Dealer, or
- 3) Obtain replacement parts or assembly from the Dealer that sold the Ford o Motorcraft remanufactured engine to complete repairs using labor supplied by the over-the-counter customer.

#### NOTE:

It is recommended that the over-the-counter customer call the dealer to discuss possible diagnostic procedures that should be taken before removal of the assembly.

#### IMPORTANT:

Effective with repairs dated August 1, 2005 and later, all independent repair facilities (IRF) and customers installing OTC diesel engines must call the Powertrain Assistance Center at 800-392-7946 for prior authorization before removing or replacing Ford and Motorcraft Remanufactured Diesel Engine assemblies under OTC Service Part Warranty.

- The over-the-counter customer (whether original customer or subsequent transferee) must present a copy of the original sales receipt for the Ford or Motorcraft remanufactured diesel engine.
- Labor reimbursed to the over-the-counter customer will be calculated based on the Each reinfourse to the view the counter classifier will be calculated based on the standard hours listed in the Ford Service Labor Time Standards Manual multiplied by the Dealer's (from which the engine assembly or component was purchased) approved warranty labor rate in effect on the date of repair, or the over-the-counter customer's actual labor amount, whichever is less.
- Vehicle towing required as a result of the failure of an assembly or part sold overthe-counter is not covered.
- Except as noted in the prior statements, all provisions and procedures outlined in the Warranty and Policy Manual apply to Ford and Motorcraft remanufactured diesel engines installed or sold over-the-counter by Dealers.



#### WARRANTY REIMBURSEMENT FOR ENGINES SOLD OVER-THE-COUNTER

WARRANTY REIMBURSEMENT FOR FORD AND MOTORCRAFT REMANUFACTURED DIESEL ENGINES SOLD OVER-THE-COUNTER

#### Dealership actions required for assemblies that were sold Over-The-Counter and replaced/installed at a dealership

- Effective with repairs dated August 1, 2005, and later when an assembly that was sold OTC is brought to a Ford or Lincoln Mercury dealership for assembly replacement, dealers not on Reduced Warranty Requirements must obtain prior approval before replacing Ford and Motorcraft Remanufactured Diesel Engines under OTC Service Part Warranty.
- Dealers can obtain prior approval by completing the Powertrain Approval form via the Professional Technician Society (PTS) website OR by contacting the Technical Hotline at (800) 826-4694 and selecting option #2 "Engine and Transmission Exchange Prior Approval".
- Reduced Warranty Requirement dealers are exempt from this requirement for REPLACEMENTS DONE IN THE DEALERSHIP for one year, but will be subject to review for inclusion in the Prior Approval process at the end of one year.

#### **Dealer Reimbursement**

- In order for a Dealer or Installer to claim under the Limited Warranty, the Dealer, Installer or customer (whether original customer or subsequent transferee) must provide the original owners repair order or sales slip that includes the VIN of the service vehicle, the current mileage of the service vehicle, the serial number of the part being replaced, and the labor amount charged for the replacement.
- Engine assemblies and components found defective before installation on the vehicle or before sale over-the-counter are to be returned for credit to your selling Ford Authorized Distributor for Powertrain Products.
- Dealers will be reimbursed for parts and labor (if applicable) at warranty rates.
- Reasonable removal and reinstallation labor is reimbursed when prior authorization is obtained.
- Vehicle towing required as a result of the failure of an assembly or part sold over-the-counter is not covered.

#### Dealership actions required for replacement of assemblies sold Over-The-Counter but NOT repaired/installed at a dealership.

 Ensure the OTC customer completes the Assembly Replacement Worksheet and calls the Powertrain Assistance Center (800-392-7946) for an authorization number when requesting replacement of an assembly.

DO NOT GIVE REPLACEMENT ASSEMBLIES WITHOUT THE POWERTRAIN ASSISTANCE CENTER AUTHORIZATION NUMBER.

For over-the-counter sales, the selling dealer is responsible for submitting a warranty claim on behalf of the over-the-counter customer, and reimbursing the customer for the repair.

Customer (retail and/or independent installer) actions required for Warranty Reimbursement for assemblies sold Over-The-Counter

 The over-the-counter customer (retail customer, fleet customer, or general installer) can, at their option:

1) Return the vehicle to the Dealer from which the assembly was purchased for repairs during regular business hours for repair by the Dealer, or

2) Return the defective Ford or Motorcraft remanufactured diesel engine to the Dealer (from which the assembly was purchased) during regular business hours for repair by the Dealer, or

3) Obtain replacement parts or assembly from the Dealer that sold the Ford or Motorcraft remanufactured engine to complete repairs using labor supplied by the over-the-counter customer.

#### NOTE:

It is recommended that the over-the-counter customer call the dealer to discuss possible diagnostic procedures that should be taken before removal of the assembly.

#### **IMPORTANT**:

Effective with repairs dated August 1, 2005 and later, all independent repair facilities (IRF) and customers installing OTC diesel engines must call the Powertrain Assistance Center at 800-392-7946 for prior authorization before removing or replacing Ford and Motorcraft Remanufactured Diesel Engine assemblies under OTC Service Part Warranty.

- The over-the-counter customer (whether original customer or subsequent transferee) must present a copy of the original sales receipt for the Ford or Motorcraft remanufactured diesel engine.
- Labor reimbursed to the over-the-counter customer will be calculated based on the standard hours listed in the Ford Service Labor Time Standards Manual multiplied by the Dealer's (from which the engine assembly or component was purchased) approved warranty labor rate in effect on the date of repair, or the over-the-counter customer's actual labor amount, whichever is less.
- Vehicle towing required as a result of the failure of an assembly or part sold over-the-counter is not covered.
- Except as noted in the prior statements, all provisions and procedures outlined in the Warranty and Policy Manual apply to Ford and Motorcraft remanufactured diesel engines installed or sold over-thecounter by Dealers.

## Limited Service Parts Warranty – Ford and Motorcraft Parts

#### SPW Coverage on Ford & Motorcraft Parts not replaced at Company Expense

Parts not replaced under Company Expense, and installed or sold by dealerships or authorized distributors to retail and wholesale customers qualify for the following warranty coverage:

#### **Dealer Installed**

- · Parts & labor to replace defective part within 24 months/unlimited miles
- Towing is covered, if required, but only if the vehicle is not covered under the Roadside Assistance
   Program
- Warranty begins from date of installation, as noted on the repair order

#### Sold Over-the-Counter to a Retail Purchaser

- Part Warranty is 24 months/unlimited miles
- For a retail purchaser, warranty begins on the date of sale

#### Sold Over-the-Counter to a Fleet, Installer or Wholesaler

- For a fleet, general installer or wholesaler, warranty begins on the date of installation or resale
- · Parts & labor to replace defective part within 24 months/unlimited miles
- Fleets and Installer labor is reimbursable up to \$150/claim. Labor amount is calculated using the installer or fleet cost of labor multiplied by published labor time standard. Total cost is not to exceed the Ford Labor Times standard hours multiplied by the processing dealership's warranty labor rate.
- Diagnostic steps taken to determine cause of warranted concern with diagnostic results must be clearly documented on the installer repair order along with the Vehicle Identification Number (VIN). Warranty parts and labor reimbursement requests must be supported by diagnostic labor steps and test results.
- All parts replaced under warranty by an installer or fleet must be returned to the selling dealer.

#### SPW Coverage on Parts Replaced at Company Expense

Parts replaced at Company expense (e.g., Customer Satisfaction Programs, Special Service Instructions, Field Service Actions (FSA), or Customer Loyalty Plan) are covered under the applicable Service Parts Warranty stated below or the remaining portion of the New Vehicle Limited Warranty (if any), whichever is greater.

- <u>Ford/Lincoln Cars & Light Trucks</u>: The parts and accessories warranty is: 12 months / 12,000 miles, whichever occurs first
- <u>650 and higher series trucks</u>: The parts and accessories warranty is: 12 months / unlimited miles, whichever occurs first

#### Notes:

- The Limited Warranty may be honored by the original installer or any Ford/Lincoln Dealer, even though that particular dealer was not the original purchaser/seller of the part.
- In order for the Dealer, Fleet or Installer to claim the Limited Warranty, the dealer, fleet, installer or customer must provide the original owner's repair order or sales slip with VIN when repairs are requested.

# WARRANTY REGISTRATION GUIDE Ford Powertrain Assembly Service Part

#### Warranty Terms

Gas Engine	3 Years/Unlimited Miles on 6007/6006/6V012
Transmission Assemblies	3 Years/Unlimited Miles on automatic transmissions (7000/7V000) and manual transmissions (7002/7003)
Diesel Engine Assemblies	2 Years/Unlimited Miles on complete engines (6007/6V007) and long block (6006/6V006) 1 Year/Unlimited Miles for stripped long blocks (6012/6V012) and short blocks (6009/6V009)

#### **Registration Process:**

#### Fleet- or Independent-Installed

- Purchase assembly from Dealer/Distributor
- 2 Install assembly in vehicle
- **3** Record VIN, Installation Date, Mileage, Serial Number and Part Number on the Vehicle Owner Repair Order
- 4 Send Vehicle Owner Repair Order copy to Dealer/Distributor for registration in OASIS\*
- 5 Dealer/Distributor registers assembly in OASIS\* and generates warranty registration
- Installer provides vehicle owner:
   Warranty Policy Statement
   OASIS\* Warranty Registration
  - Vehicle Owner Repair Order

#### **Dealer-Installed**

- Purchase assembly from Ford Distribution Network
- 2 Install assembly in vehicle
- **3** Record VIN, Date of Installation, Mileage, Serial Number and Part Number on Vehicle Owner Repair Order
- 4 Dealer registers assembly in OASIS\* and generates Warranty Registration
- 5 Dealer provides vehicle owner: - Warranty Policy Statement - OASIS\* Warranty Registration
  - Vehicle Owner Repair Order





NEW



REMAN

# What does the customer need?



#### FAQs:

\*Are vehicles for Model Years 1999 and older eligible for the Powertrain Warranty?

Yes – but they cannot be registered in OASIS. Instead, the vehicle owner must retain the Vehicle Owner Repair Order with VIN , Installation Date, Mileage, Ford Serial Number and Part Number documented.

#### Which serial number do I use for a new powertrain assembly?

New assemblies carry a tag similar to the illustration on this page. Copy the number from the label for proper registration.

#### If a powertrain is replaced under the New Vehicle Powertrain Warranty, does it receive the 3-Year/ Unlimited Mileage Warranty?

No – those assemblies are covered either by the remainder of New Vehicle Warranty or 12-months/12,000 Miles, whichever is longer.

#### How do I register a powertrain if I do not install it right after purchasing the assembly? Immediately after the installation, provide the Dealer/Distributor with a Repair Order showing the VIN, Installation Date, Mileage, Serial Number and Part Number documented.



PTASBLYWRNTYREG12-14

© Ford Motor Company

# FORD WARRANTY COVERAGE AND REGISTRATION



for Retail and Over-the-Counter (OTC) Powertrain Assembly Sales

#### Warranty Terms

- New/Remanufactured Ford Gas or Propane Engines/Transmissions
- New/Remanufactured Ford Diesel Engines

	Gas/Transmission (All vehicles, SSP/ Retail and OTC)	<b>Diesel</b> (All trucks, retail and OTC, incl. F650/F750 & LCF)	Diesel (All trucks, retail and OTC, incl. F650/F750 & LCF)
Warranty Start Date:	9/1/2010 – Present	6/1/2005 – Present	6/1/2005 - Present
Engine Base Part Numbers:	6006, 6007, 6V006, 6V012	6009, 6012, 6V009, 6V012	6006, 6007, 6V006, 6V007
Transmission Base Part Numbers:	7000, 7002, 7003, 7V000		
Warranty Claim Program Code:	SSP – Installed by Dealer OTC – Installed by Customer	SSP – Installed by Dealer OTC – Installed by Customer	SSP – Installed by Dealer OTC – Installed by Customer
Time/Mileage:	3 Years/Unlimited Miles	1 Year/Unlimited Miles	2 Years/Unlimited Miles

Note: No towing coverage is offered on OTC assemblies.

#### **OTC Warranty Repair Options**

Over-the-counter customers of a Dealer (such as a vehicle owner, independent repair facility, wholesaler or fleet customer) can, at their option:

- 1. Return the vehicle to the installer from which the assembly was purchased.
- 2. Return the vehicle to the selling dealership for repairs.
- 3. Return the vehicle to any dealership for repairs.

## Warranty Claim Steps when OTC Customer Repairs

#### **OTC Customer Responsibilities**

- 1. Call the **Powertrain Assistance Center (PAC) at 800-392-7946** for prior authorization before removing or replacing a Ford Remanufactured Assembly under OTC Service Part Warranty.
- 2. Provide the selling Dealer/Distributor a copy of the assembly's OTC Customer Repair Order (whether the original purchasing customer or subsequent transferee) and the PAC authorization number. Arrange for delivery of the replacement assembly.
- 3. Communicate with the selling Dealer/Distributor regarding your labor amount. Labor reimbursement is based on standard hours listed in the Ford Service Labor Time Standards Manual, multiplied by the dealership's approved warranty labor rate in effect on the date of repair, or the OTC customer's actual labor amount, whichever is less.
- 4. Return all parts replaced under warranty to the selling Dealer/Distributor.

#### Selling Dealer/Distributor Responsibilities

- 1. Ensure that the OTC customer calls the **Powertrain Assistance Center at 800-392-7946** for prior authorization.
- 2. DO NOT RELEASE REPLACEMENT ASSEMBLIES WITHOUT THE POWERTRAIN ASSISTANCE CENTER AUTHORIZATION NUMBER.
- 3. Repairs made by the OTC customer are not included in the dealership's measured warranty expense. These repairs fall "below" the measured total line and will not have an impact on a dealership's entry or progression in the Warranty Counseling Process.
  - Note that the claim must be submitted with a miscellaneous expense code of "SVCLBR" with the corresponding labor reimbursement amount. Failure to use the miscellaneous expense code of "SVCLBR" will cause the repair to be included in your measured expense.
- Submit a warranty claim, including the serial number of the assembly, on behalf of the OTC customer, and reimburse the OTC customer for the repair.

Dealers are required to adhere to all provisions and procedures detailed in the Warranty and Policy Manual



## REMANUFACTURED GAS ENGINE ASSEMBLIES

Ford | FORD PARTS

Make Ford Genuine Parts your first choice for Ford and Lincoln replacement parts!

#### Genuine Ford Remanufactured Gas Engine Assemblies – the Right Fit!

- Each assembly covered by a 36 month/unlimited miles warranty on parts and service\*, with no commercial use exceptions
- Designed to deliver quality and value – include the latest engineering enhancements
- No "reverse engineering"
- Same or next day delivery
- No-risk core return policy 100% core credit

#### Gasoline Engine Features

- Sealed long blocks (6006 base) include all highly desired components including; oil filter and adapters, thermostats and correct oil pan
- Stepped cylinder bore honing helps optimize oil consumption and minimum break-in time
- Head gaskets, main and rod bearings designed specifically for remanufactured blocks, heads and crankshafts
- O.E. manufacturing processes used in assembling each engine
- · Each assembly is checked on a computer-controlled test stand to verify performance criteria



\* See dealer for limited-warranty details.

# GENUINE FORD Gas Engine

AIR

FUEL

B

GNITION

COOLING

SENSORS

#### **HOW A GAS ENGINE WORKS:**

- Gasoline is supplied to the engine under high pressure through a fuel injector nozzle that atomizes fuel in a fine mist in each cylinder
   Air is mixed with fuel in the cylinder
- The mixture is compressed and ignited by a spark plug, resulting in fuel combustion and rotary engine motion

#### **Possible Symptoms:**

- The engine uses excessive oil
- The engine does not start or runs erratically
- Excessive bearing clearances result in low oil pressure
- Contamination of oil, coolant or fuel cause
   performance issues or a no-start condition
- Mechanical pounding, knocking or rattling noises may indicate internal structural problems
- Clicking noises associated with the valvetrain indicate need for component adjustment or replacement

## **GAS ENGINE ASSEMBLY**



#### 3-Year Unlimited Mileage Warranty

- Only Ford-approved parts
- Latest part updates and revisions from Ford engineering
- Built to original specifications
- Commercial-use approved with full warranty
- Make, model-year and calibration-specific replacements mean the right gas engine for your vehicle

	How they work:	What can happen:
	<ul> <li>Air is supplied to the engine to enable combustion within each cylinder</li> <li>Supplied air is filtered to prevent accelerated cylinder wear due to dust and abrasive contaminants</li> </ul>	<ul> <li>A dirty air filter can choke off airflow to the engine, resulting in sluggish performance and poor fuel economy</li> <li>A missing, leaking or clogged air filter can permit dirt and abrasives to enter the engine</li> </ul>
-	<ul> <li>Gasoline engines use a variety of fuel delivery methods, but all modern ones inject fuel either into an intake manifold, cylinder head port or directly to the cylinder</li> </ul>	<ul> <li>Water in the fuel can cause fuel system corrosion and driveability issues</li> <li>Dirty fuel can clog filters, ruin fuel injectors and accelerate cylinder wear</li> </ul>
	<ul> <li>Oil is the "lifeblood" of the engine, providing a cooling film on internal engine components to prevent direct metal-to-metal contact, wear and damage</li> <li>A plentiful supply of clean oil is necessary for long engine life</li> <li>Motorcraft oil and oil filters are recommended for best protection and performance</li> </ul>	<ul> <li>Oil can be drawn past worn piston rings and valve stem seals/guides and burned in the cylinder</li> <li>Worn gaskets and oil seals can allow oil to drip out of the engine</li> <li>A clogged oil filter can allow unfiltered oil to circulate and damage components</li> <li>Excessive bearing clearances can allow oil to escape from critical areas, resulting in low oil pressure</li> <li>Dirty/low oil can result in engine and camshaft bearing damage</li> </ul>
	<ul> <li>Gas engines use spark plugs to ignite the air/fuel mixture inside the cylinder</li> <li>The mixture is ignited at a precise moment during the engine's revolution cycle</li> </ul>	<ul> <li>The spark plugs can fail or wear and require replacement</li> <li>Ignition coil(s) or spark plug wires can fail or wear, resulting in misfires or no-start conditions</li> </ul>
	<ul> <li>Coolant is pumped through passages inside the engine block and cylinder heads to cool hot components</li> <li>Coolant is pumped to an external pressurized radiator, where onrushing air flows through a finned core to remove heat</li> <li>Coolant is returned to the engine and recirculated</li> </ul>	<ul> <li>The water pump can fail and coolant cannot reach the radiator – engine overheats</li> <li>The radiator can corrode or suffer physical damage that allows pressure to escape/ coolant to leak, causing boil-over/loss and engine overheating</li> <li>Coolant can "wear out," resulting in inadequate concentrations of important additives that prevent coolant freezing, boil-out and cooling system corrosion and clogging</li> <li>Neglected maintenance can result in coolant freezing, system corrosion or component damage</li> </ul>
	<ul> <li>Sensors keep tabs on atmospheric conditions as well as a long list of vital engine functions</li> <li>The sensors send data to the Engine Control Module, which in turn makes adjustments to various engine components to optimize driveability, fuel economy, performance and emissions</li> </ul>	Sensors can fail for a variety of reasons, from water intrusion into the component, fuel contaminants or electrical issues

# **GET EVERYTHING YOU'RE PAYING** FOR AT A COMPETITIVE PRICE

# with a **GENUINE Ford** Remanufactured Gas Engine

# We remanufacture only Ford Gas Engines - to our own original engineering specifications

#### Here's what adds up to a Ford engine that's closer to "new" than many competitors' engines:

- Ford proprietary blueprint specifications
- Only Ford-approved parts
- High standards in precision machining

#### Peace of Mind Warranty Coverage

- For 36 months from warranty start date, Ford will cover 100% of all parts and labor\*
- Unlimited mileage coverage
- If the engine is installed by a Dealer, standard towing charges are covered<sup>†</sup>
- More than 3.000 servicing Ford and Lincoln Dealers nationwide

\*At approved warranty reimbursement rates.

<sup>†</sup>If the vehicle is not covered under other towing insurance coverage; reasonable rates up to 35 miles or to the nearest Dealer.

# Pistons and Piston Rings -

- Ford Engineering-Approved Pistons facilitate ignition by compressing/
- sealing the air/fuel mixture
- Over time, can become worn or heavily carbon-coated

# Main, Rod and Camshaft Bearings -

#### Ford Engineering-Approved

- Provide a soft-metal surface for the oil film to buffer against metal-to-metal contact of the crankshaft journals, connecting rods and camshaft journals
- Oil film can break down, resulting in damaged or "spun" bearings and severe engine knock
- · Bearings can be damaged by oil contaminants, also causing damage to the components that ride on them

## Oil Pump – Ford Engineering-Approved

- Delivers oil to internal bearings
- Can be damaged by wear by-products, water and debris
- Pump failure can cause catastrophic engine failure

D

#### Water Pump -Ford Engineering-Approved

- Circulates coolant through passages in the engine block and cylinder heads
- Bearing or impeller can wear out with use

# Variable Cam Timing Solenoid –

- Ford Engineering-Approved (not shown)
- Adjusts camshaft timing to ensure optimum power, economy and emissions at all engine speeds
- Can wear out over time or become obsolete due to part revisions

## All Replaced Components -Ford Engineering-Approved

 Competitors may use any brand or quality – Ford uses only new OE replacements

# GENUINE QUALITY MAKES THE DIFFERENCE. 3-YEAR Unlimited Mileage Warranty

# **Compare Your Gas Engine Repair Options:**

Other repair options are available to you, but none offer the quality and peace of mind that Genuine Ford **Remanufactured Gas Engines** do. Our remanufacturing process uses genuine original equipment Ford and Motorcraft parts that are designed, manufactured and recommended by Ford Motor Company specifically for these engines. Extensive laboratory and road testing, as well as exact fit and function ensures maximum performance and efficiency. It's all backed by Ford's three-year, unlimited-mileage warranty- even for demanding commercial use. Check out what makes us your best choice:



Ask about no-interest financing with approved credit on the Ford Service Credit Card

	MAJOR COMPETITOR	GENUINE FORD REMANUFACTURED
Warranty		
Terms	Only 1-Year coverage on: • Electronic fuel injectors • Fuel pumps • Water pumps • Sensors • Sending units	3-Year/ Unlimited Mileage
Commercial Use	YES	YES
Nationwide Coverage	LIMITED LOCATIONS • If approved, "the work will be performed either at (their) factory or by another selected vendor" • "It is the sole responsibility of the buyer to pay for such (warranty) work."	YES At any of the more than 3,000 Ford and Lincoln Dealers nationwide or at the originating place of service, with no out-of-pocket expenses for warranty repairs.
Parts Replaced		
Meet OE Specifications?	Any brand or quality they specify	YES
Pistons	YES	YES
High Build Levels that Include Key Components	NO	YES – Sealed long blocks include: • Spark Plugs • Vibration Damper/ Harmonic Balancer • Water pump • Valve cover & PCV • New VCT Solenoid (3V modulars) • Oil Pan • Oil
Specifications		
Original Equipment	NO Solution: Reverse-engineer a Ford engine.	YES
<b>Final Testing</b>		
OE Requirements	NO	YES
Computer Diagnostics	NO	YES



FORD PARTS

OEM Parts & Specs at competitive prices

# **Gas Engine Build Levels**

	Base part number	6006	6V012
Build	Dart number description	Reman Sealed	Reman Unsealed
Levels		Long Block	Long Block
Shipping	Shipping container	Plastic crate	Plastic crate
Info		Sealed plastic bag	Sealed plastic bag
Base	Cylinder block	•	•
Engine	Main / rod bearings	•	•
	Crankshaft	•	•
	Rear seal	•	•
	Connecting rods	•	•
	Pistons / rings	•	•
	Timing components	•	•
	Cam bearings	•	•
	Camshaft	•	
Long	Cylinder head assembly	•	•
	Valves, springs, keepers & seals	•	۲
Unsealed	Lifters / buckets	•	•
	Pushrods	•	•
	Rocker arms / followers	•	•
	Oil pump	•	•
	Gasket installation kit	•	1990 and later
Long	Front seal	•	
	Front cover	•	
Sealed		•	
	Oil pickup	•	
	Vibration damper	•	
	Valve covers and gaskets	•	
	Water pump assembly	•	
	Thermostat	•	
	Spark plugs	•	
	Engine oil	•	
	Oil filter	•	
	Oil filter adapter	If applicable	
	Oil cooler assembly	If originally equipped	
	Intake manifold	2.0L SPI only	
	• = Included in build level		

## A higher level

Our product lineup has been simplified to provide the best value based on the vehicle's age. Each engine and transmission is built using parts that keep it specific to make, model, year and emissions calibration, which means each assembly is engineered to perform like the one it's replacing when it was new.

# **Gas Engine Build Level Configuration** Family Specific

	OL-2V SPI	2.0L-4V ZETEC	2.0L-4V 14	2.3L-4V 14	5L-4V 14	.4V V-6	żv	OL-4V RFF	OL-4V DAMB	4V		2V	4V	они	SOHC		·2V & 4V	зv	(300 cid)	OL OHV	5.4L-2V, 3V & 4V	они	6.8L 2V & 3V	7.0L (429 cid)	(460 cid)
	2.0L-	2.0L-	2.0L-	2.3L-	2.5L-	2.5L	3.0L-2V	3.0L-	3.0L-	3.5L	3.8L	3.9L-2V	3.9L-4V	4.0L OHV	4.0L	4.2L	4.6L-2V	4.6L-3V	4.9L	5.0L	5.4L-	5.8L OHV	6.8L	7.0L (	7.5L (
Base	e Pa	rt #:	s: S	eale	ed Lo	ong	Bloc	kS	= 60	006	Ur	nsea	aled	Lon	g Bl	ock	U =	6V	012						
Cylinder Block, Head(s), Crankshaft, Camshaft(s), Pistons, Rings, Bearings, Timing Gear(s) – Chain(s) or Belt, Oil Pump.	s	US	S	S	s	US	US	US	S	s	S	S	s	US	S	S	US	S	U	U	S	U	S	U	U
Oil and Filter, Spark Plugs	s	s	s	s	s	s	s	S	S	s	S	S	s	s	S	S	S	S			s		S		
Oil Filter Adapter	s	s	s	s	s	s	s	s	s	s			s	s	s		s	s			s		S		
Oil Cooler 1		s	s	s	s	s		s	s	s	s	s	s		s	s	s	s			s		S		
Oil Pan	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s			s		s		
Installation Gaskets/Seals	s	υs	s	s	s	υs	US	s	s	s	s	s	s	US	s	s	US	s	U³	U³	s	U³	s	U	U³
Water Pump	s	s	s	s	s		s	S⁵		s	s	s	s	s	s	s	s	s			s		s		
Valve Covers	s	s	s	s	s	s		s	s	s	s	s	s	s	s	s	s	s			s		s		
Thermostat	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s			s		s		
Lower Intake Manifold	s													s											
Front Cover	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s			s		s		
Front Seal(s)	s	υs	s	s	s	υs	US	US	s	s	s	s	s	US	s	s	US	s	U³	U³	s	U³	s	U	U³
Crank Damper	s	s	s	s	s	s	s	s	S	s	s	s	s	s	S	s	S	s			s		S		
Exhaust Manifold Gasket(s)	s	US	s	s	s	υs	U <sup>1</sup> S	US	S	s	s	s	s	S	S	s	US	s		U³	s		S		
Exhaust Manifold Fasteners	s	US	s	s	s	υs	s	US	S	s	s	s	s	s	S	s	US	s			s		S		
PCV Valve			s	s	S	s				s				S <sup>4</sup>				s			S <sup>2</sup>		$S^2$		
		Cylir	nder	He	ad K	lits		Bas	e Pa	ırt #	s: F	= e	504	9 1	<b>v</b> = 1	6VC	49								
Cylinder Head											М			FΜ		М	F⁵				F⁵		F⁵		
Camshaft																	F⁵				F⁵		F⁵		
Rocker Arms																	F⁵				F⁵		F⁵		
Valves											м			FΜ		м	F⁵				F⁵		F⁵		
ValveStemSeal/Retainer Keys											м			FΜ		м	F⁵				F⁵		F⁵		
Head Gasket																	F⁵				F⁵		F⁵		
Head Bolts																	F⁵				F⁵		F⁵		
Footnotes:											For	rd an	d Lin	icoln	deal	ers ca	an vie	ew th	ne la	test v	ersic	on of	this c	hart	at:
1. If originally equipped	3. 199	90/up			5.	2 Valv	e appli	catior	is only	/	FN	IC:	égio	ir.ci	>	> Part	ts Dep	ot >> I	Parts	Produ	ict Lin	e Info	rmati	on >>	
2. 3 Valve only	4. 199	97/up			6.	Some	2005-	06 ap	plicat	ions															
Disclaimer: This chart was produ responsibility for errors, omission	uced	using			st inf	orma	ation	availa	able	at th						e utn	nost		was	usec	d, For	d as	sume	es no	)

# MOTORCRAFT® 3.5L TURBOCHARGER

## The Motorcraft Advantage

- The only Ford-approved turbocharger available for Ford & Lincoln applications
- First-to-market **remanufactured** turbocharger for this application
- Product is competitively priced
- Exceeds Ford Engineering's rigorous remanufacturing test requirements
- Excellent performance under all operating conditions
- Backed by 2 Year Limited Warranty with unlimited mileage, labor included and no commercial exceptions\*

## **3.5L Turbocharger Features**

- OEM-quality balancing process used to help minimize noise and vibration
- Turbine and compressor designed to match OE performance
   for boost and efficiency performance
- Tuned for crisp throttle response and excellent low-end torque
- Components manufactured on high-precision machines to close tolerances
- Engineered with high-quality components for optimum performance and excellent durability
- All necessary gaskets included for ease of installation

High-quality alloy castings help resist shock and corrosion

Turbine wheel design helps to resist corrosion and heat distortion

Components precisionmachined to exacting tolerances for a long life



\*Limited labor costs. See seller for warranty details. No commercial exceptions. © 2018 Ford Motor Company



## Right Part. Priced Right.

Motorcraft® is a registered trademark of Ford Motor Company

# INTAKE MANIFOLD KITS Ford

Make Ford Genuine Parts your first choice for Ford and Lincoln replacement parts!

## **High Quality Designs**

- Original equipment manifolds vehicle crash tested to ensure fuel rail integrity
- Runner length and shape designed to minimize NVH and deliver strong performance at all engine speeds
- Injection-molded cases made of virgin nylon resins
- Designed to withstand coolant temperature and pressure spikes at wide-open-throttle
- Key Life durability tested to the equivalent of 10 years/150,000 miles lifetime

## **Attention To Detail**

- Designed to provide an optimal combination of torque, horsepower and fuel mileage
- PCV port location and size is engineered to ensure compliance with emissions specifications
- Hose spigot designs are vehicle-specific and feature retention barb for a firm hose fit
- Structural ribs add rigidity to the case
- The noise shield helps minimize NVH (not available on all models)

#### 24-months/Unlimited Mileage Service Part Warranty

- 24-months / Unlimited Mileage Limited Warranty, which includes parts and labor costs, and is supported nationwide by Ford and Lincoln dealers and Ford Authorized Distributors (See seller for limited warranty details)
- Designed to meet stringent Ford engineering standards for performance and durability
- Recommended for all Ford, Lincoln and Mercury vehicles

Strustural ribe

Aminar langth & also aptimized

FORD PARTS

Part # - 2L1Z-9424-AA

····· Threaded brass inseria

## **High Burst Pressure**

- Ford manifolds are engineered to ensure burst pressures high enough to withstand engine backfire
- A non-OEM plenum with a low burst pressure can contribute to backfires and damaged valves and pistons



Motorcraft.

# WATER PUMPS

Right Part. Right Fit. Right Price Every Time!

## Motorcraft® Water Pumps

#### **Robust Design**

- Coolant reservoir keeps normal cold-start weepage out of sight and extends bearing life
- Press tubes coated with nickel zinc for better housing connection and corrosion resistance
- Powdered-metallic hub mating surfaces provide superior alignment for smooth operation and don't need machining
- Robust impeller design engineered to optimize performance for specific vehicle applications
- Key Life durability tested to the equivalent of 10 years/150,000 miles lifetime

## **High Quality Bearings and Seals**

- All pumps contain precision ground bearings to help deliver long life and efficient performance
- · Bearing housing meets original equipment load requirements
- Bearings are locked into place to minimize fan-load vibration, and help ensure long-term alignment and reliability
- · Latest advances in seal and bearing technology employed

## **Easy Installation**

- Original equipment-designed metal gaskets include an additional sealing bead to help optimize alignment and provide long-term sealing
- Always a new product no core charges

#### 24-months/Unlimited Mileage Service Part Warranty

- 24-months / Unlimited Mileage Limited Warranty, which includes parts and labor costs, and is supported nationwide by Ford and Lincoln dealers and Ford Authorized Distributors (See seller for limited warranty details)
  - Designed to meet stringent Ford engineering standards for performance and durability



 Recommended for all Ford, Lincoln and Mercury vehicles Bearings looked In place

Ford

Full-length Abs add slabillity



High quality impellers

# WHY MOTORCRAFT®

## The Ford Power Stroke® Diesels

Customers have long sought Ford Power Stroke Diesels for their well-earned reputation for rugged durability. After all, when your truck works for a living – dependable isn't a word tossed around lightly. From gritty construction sites and dusty farm roads to remote oil fields and coast-to-coast convoys chewing up the miles - Ford Power Stroke Diesels pay the rent!

## Motorcraft Diesel Replacement Parts

And when it comes to maintaining your customers' trucks, Motorcraft is right there with premium diesel replacement parts, that are as reliable and dependable as the trucks they serve. Whether it's maintenance fluids, filters and additives or repair parts, Motorcraft is serious about delivering high quality. Our goal is to keep your customers rolling and to help keep their operating costs down. Because we know when a truck is in the shop, downtime can cost the owner a lot more than just the cost of the repair.

What's more – Ford Motor Company stands behind every Motorcraft Diesel part we sell. Factory engineers design, develop and test these parts to the same grueling OE standards applied to our Ford Trucks. And no one tests trucks like a Ford Engineer.

#### Coverage

But engineering, testing and application-specific designs are only half the battle. Ford Motor Company boasts coast-to-coast distribution. And, it's not just a few high-volume parts either; Motorcraft has unparalleled breadth and depth of coverage. All this, so that when a customer calls with a truck down and the clock is ticking, the right parts aren't far away.



# MOTORCRAFT® DIESEL FUEL INJECTION PARTS

Only genuine Motorcraft Remanufactured Fuel Injectors and Fuel Injection Control Modules (FICM) feature proprietary engineering enhancements developed by Ford engineers to minimize downtime and repair expense while maximizing durability and performance.

#### **Remanufactured Fuel Injectors**

- The Internal components of the Power Stroke® Diesel's fuel injectors are precisely engineered to the extreme tolerances that are critical to generating peak horsepower and torque
- New coil assemblies with slotted end caps help improve durability and engine performance and help prevent wire fatigue and poor cold-start conditions
- High pressure sealing surfaces inside the cylinder head assembly are refinished to original specifications; less than two microns of flatness, which is critical to high pressure (20,000-plus psi), injection systems
- Injector's intensifier bodies are given new plungers, and both components are precision match-honed to operate at extreme pressures and temperatures with durability and reliability
- All spool valves are replaced with new parts, and both control valve bodies and spools are precision ground to Ford exacting tolerances for excellent sealing and oil direction
- Motorcraft uses new rod assemblies, new M4 screws and cone nuts, 100 percent flow-tested nozzles and nitrogen leak-tested injector assemblies to help ensure proper performance

#### Motorcraft FICM Advantages:

- Power Supply Board resistors New, re-engineered resistors feature robust "shock absorber" leads – don't risk reused, crack prone electrical leads
- Vibration Resistance OE resistors with 'shock absorber' electrical leads eliminate hot-melt gluing of leads. AM hot-melt glue drizzled over leads can lock in damaging heat
- Soldering Techniques Correct solder filleting of re-engineered genuine OE resistor leads ensures proper electrical contact and resists cracking; helps prevent a "cold" solder joint that could lead to poor electrical contact, cracking or component failure
- FICM Housing Finish Motorcraft housings are left unfinished never painted to help dissipate heat
- Vacuum-checked gasketed cover help resist leaks
- Enhanced end-of-line quality checks and thermal testing help ensure reliable operation

#### **Pre-programmed FICM**

- When the clock is ticking and every moment of downtime matters, busy shops will often reach for a pre-programmed FICM
- It's perfect for field repairs because there's no need to tow the vehicle, transport programming equipment to the repair site, or perform any programming back at the shop
- · Just swap the unit and the engine is back in service





# MOTORCRAFT® DIESEL

Built to OE standards; engineered with precision; and designed with fully integrated capabilities – these are just a few of the qualities that set Motorcraft Diesel parts apart. And these are the only diesel parts recommended by Ford for diesel engines in Ford Motor Company vehicles.

## Turbocharger

- CAFE standards continue to influence auto makers to increase fuel economy on new vehicles using new and ever-smaller displacement turbocharged engines. Customers enjoy high engine power and torque while maintaining thrifty fuel economy
- All Motorcraft Turbos feature the latest advanced engineering enhancements



## **Glow Plug**

- Motorcraft makes the only glow plug designed specifically for Ford Power Stroke<sup>®</sup> Diesel Engines, featuring rigorous testing and patented designs
- Motorcraft Glow Plugs undergo demanding environmental tests to help ensure against corrosion. They are also subjected to tests designed to replicate the practical demands of daily running
- Motorcraft Glow Plugs are designed to last a minimum of 10,000 ignition cycles

## Power Stroke Diesel OE Water Pumps

Power Stroke Diesel engine water pumps should only be replaced with a new, Genuine Motorcraft water pump.

- All components meet Original Equipment specifications and are made of the highest quality materials
- A new Protective Cap for Threaded Hub protects delicate threads on hub during packaging and transport
- New Stainless Steel Hub highest quality material guards against water and coolant corrosion
- New Bearing same high quality bearing used on Original Equipment (OE) production pumps
- $\cdot$  New Casting a totally new casting manufactured using OE material and dimensions
- New Seal same high quality seal used on OE production pump



## **Diesel High Pressure Oil Pump**

- The only high pressure oil pumps recommended by Ford
- Designed and tested to OE specs for a long service life
- Precision engineered and calibrated for maximum efficiency
- Latest engineering enhancements are incorporated
- Engineered to maintain proper oil pressure at all times under a wide range of operating conditions

# MOTORCRAFT® DIESEL ENGINE FILTERS

- Motorcraft diesel filters meet vehicle warranty requirements, help enhance performance and reduce engine wear
- Oil Filters provide optimum filtering throughout their intended service life
- · Air Filters perform as designed in nearly any environment and are constructed of premium materials
- · Fuel Filters/Separators help ensure incoming fuel is clean and water-free



#### **Oil Filters**

- Designed and engineered specifically for Ford Power Stroke® Diesel engines, Motorcraft oil filters keep particulates from damaging moving parts
- 6.4L and 6.0L Engines 95% efficient at 20 microns and larger\* with environmentally-friendly, top-load, "dripless" cartridge element
- 7.3L AND 6.7L Engine 98% efficient at 18 microns and larger\* with an antidrain-back valve to prevent dry starts with material formulated to resist aging from engine heat

## **Air Filters**

- Designed and engineered specifically for Ford Power Stroke Diesel engines, Motorcraft air filters supply clean, particulate-free air to your engine for optimal performance
- 99.99% efficient at one micron and larger\*, holds approximately three pounds of debris before needing replacement (6.4/6.0L)
- Contains twice the filter media compared to conventional pleated filters (6.4/6.0L)
- Meets 98.5% efficiency standard in coarse dust testing with excellent dirt retention (7.3L)
- Chemically treated oil- and moisture-resistant dry filter elements (7.3L)
- Leak-proof polyurethane/adhesive seals ensure performance even at high underhood temperatures (7.3L)





## **Fuel Filters**

- New for 6.7L Fuel Water Separator is the only Ford tested separator on the market that meets Ford Fuel System Specifications
- Designed and engineered specifically for Ford Power Stroke Diesel engines, Motorcraft fuel filters separate fuel from water and keep particulates from damaging your engine's fuel injectors
- Diesel fuel provides power and lubricates the fuel pumps and injectors. When too much water or dirt gets in the fuel, pumps and injectors don't have the lubrication they need and can fail
- Motorcraft fuel filters feature patented Aquablock designed to keep water out of the filter
- Motorcraft diesel fuel filters have a patented air bleed orifice that allows fuel to flow through the entire filter. Not all of our competitors have this feature, meaning the filter cannot be purged completely of air

# MOTORCRAFT® FAMILY OF CHEMICALS

## Diesel Oil

- Specially formulated for use in all Power Stroke® engines
- Motorcraft motor oils are specially designed to provide maximum protection from wear, varnish deposits and sludge formation
- Motorcraft Super  ${\sf Duty}^{\tiny (\!\!\!\!\!\!\!\!)}$  Diesel Motor Oil also helps protect against rust and corrosion, while minimizing exhaust emissions
- $\cdot$  And now, Motorcraft offers a specially formulated engine oil for the F-150 3.0L Diesel engine

## Motorcraft Diesel Engine Oil Lineup

- SAE 10W-30 F-150 Diesel Motor Oil
- SAE 15W-40 Super Duty Diesel Motor Oil
- SAE 5W-40 Full Synthetic Diesel Motor Oil
- SAE 5W-30 F-150 Full Synthetic Diesel Motor Oil
- SAE 10W-30 Super Duty Diesel Motor Oil





## **Motorcraft Coolants**

- Motorcraft coolants provide the required additives at the proper levels to help protect your Power Stroke Diesel engine from cooling passage corrosion, oil cooler or EGR cooler clogging and cylinder wall cavitation
- The wrong coolant or mix of coolant can result in sludging, corrosion, overheating, cavitation and loss of performance
- Motorcraft coolants always have the correct additives for designated engine for optimum performance

## **Diesel Coolant Additives**

- Motorcraft sells coolant designed for all available Power Stroke Diesel engines, with a range of SCA boosters and cooling system cleaners all formulated to get the very best from your vehicle
- Power Stroke Engine cooling systems using Motorcraft Gold coolant should be tested with every third oil change to determine if additional VC-8 is needed
- Using the proper coolant is essential for optimal engine and vehicle performance
- For optimum performance, Motorcraft offers the proper coolant and additives for all Power Stroke® Diesel engines



# MOTORCRAFT® ADDITIONAL DIESEL PRODUCTS

# Motorcraft also offers the following OE products for your Super Duty maintenance and repairs:

- •Oil Cooler
- •EGR Cooler
- DEF
- Sensors
- Thermostats
- Power Stroke<sup>®</sup> Diesel Fuel Additives
- •EGR Valve
- Injection Pressure Regulator Valve
- Fuel Pressure Valve
- Diesel Air Intake Heater
- ·Diesel Fuel Transfer Pump











# MOTORCRAFT® FAST MOVERS

Category	Engine Application	Ford Service Number	Motorcraft Part Number	% of Unit Sales
	6.0L	5C3Z-9A543-ARM	HPP-12-RM	28%
HPPs	6.4L	8C3Z-9A543-DRM	HPP-11-RM	28%
	6.0L	3C3Z-9A543-AARM	HPP-10-RM	18%
	6.0L	4C3Z-9E527-BRM	CN-5019-RM	66%
Injectors	6.0L	3C3Z-9E527-ECRM	CN-5020-RM	13%
	6.4L	8C3Z-9E527-DRM	CN-6017-RM	12%
	6.0L	5C3Z-6K682-CCRM	TC-17-RM	33%
Turbos	6.4L	8C3Z-6K682-CRM	TC-16-RM	18%
Clow Plugs	7.3L	F4TZ-12A342-BA	ZD-11	44%
Glow Plugs	6.0L	4C3Z-12A342-AA	ZD-13	41%
	6.7L	BC3Z-6731-B	FL-2051S	73%
Filters - Oil	6.4L 6.0L	3C3Z-6731-AA	FL-2016	27%
	6.7L	BC3Z-9601-A	FA-1902	73%
Filters - Air	6.7L	BC3Z-9601-D	FA-1909	10%
	6.7L	BC3Z-9N184-B	FD-4615	59%
Filters - Fuel	6.0L	3C3Z-9N184-CB	FD-4616	21%
	6.7L	BC3Z-8501-A	PW-502	38%
Water Pumps	6.0L	4C3Z-8501-AC	PW-491	21%
	7.3L	F81Z-8501-FA	PW-455	17%
Additives	Cetane Booster - 20 fluid ounce (US)	_	PM-22A	76%
	Anti-Gel - 20 fluid ounce (US)	_	PM-23A	12%





Right Part. Priced Right.

# Remanufactured Diesel Engines





## **Choose Ford Remanufactured Diesel Engines**

- · OEM Designed for Perfect Fit Every Time
- · No-Risk Core Return
- · Bore Spray Technology
- · Same or Next Day Delivery Available
- · Competitive Prices
- Nationwide Limited Warranty Coverage\*

Ford | FORD PARTS

\*See your seller for limited-warranty details.

## Trust Only Motorcraft Original Equipment Maintenance Products

#### 6.4L and 6.0L Diesel Engines\*

#### **Oil Filters**

- Recommended by Ford Motor Company for use in your Power Stroke Diesel engine
- $\cdot$  Engage and close oil drain to help ensure all oil enters the filtration path
- Properly engage the oil filter bypass valve on the top of the oil filter stand pipe
- Meet EPA standards of a fully crushable and combustible filter
- · Environmentally responsible top-loaded, dripless cartridge element

#### **Fuel Filters**

- Recommended by Ford Motor Company for use in your Power Stroke Diesel engine
- Special outer wrap keeps moisture out. Patented Aquabloc Technology helps ensure separation of water from fuel
- Primary fuel filter removes particles 10 microns and larger
- Air bleed orifice is engineered to utilize the full potential of the filter pleats. This allows air to be purged from the module, helping to ensure proper fuel flow
- Secondary fuel filter removes all particles 4 microns and larger

#### **Air Filters**

- Contain twice the amount of filter media vs. conventional pleated filters
- Stop 99.99% of contaminants 1 micron or larger
- Environmentally conscious technology helps improve disposal through metal free design

#### **Cetane Booster and Performance Improver**

· Boosts power

DSLENGCOMPTOOL 11-18

- · Helps improve fuel economy and starting ability
- Helps smooth engine operation
- · Ultra Low Sulfur Diesel (ULSD) compliant
- · Adds lubricity to fuel to help reduce engine wear
- Available in three sizes to treat one tank, 125 gallons (473 Liters), or 1,000 gallons (3,785 Liters)

\*For details on 7.3L maintenance products visit www.FordParts.com



GENUINE POWER. GENUINE PERFORMANCE. GENUINE PARTS

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# **Ford Remanufactured Engines**

Competitive Advantages					
eature	Feature Delivers				
Bore Spray	State of the art bore spray welding procedure results in standard size cylinder bores in brand new condition.*				
2 Year Limited Warranty** (Complete 6007 and Long Block 6006)	Parts and labor covered against defects for 2 years and unlimited miles.				
1 Year Limited Warranty** (Long Block 6012 and Short Block 6009)	Parts and labor covered against defects for 1 year and unlimited miles.				
Limited Warranty Coverage**	<ul> <li>Ford remanufactured powertrain and components can be serviced under warranty at the original installer or at any Ford or Lincoln dealership nationwide</li> <li>Includes component parts and over the counter sales (U.S.)</li> <li>Commercial vehicle applications included</li> </ul>				
No Fault Core Policy	When engine core is accepted for return, 100% credit will be given. No core credit deductions will be assessed for the quality of the returned engine core.				
Product Support	Easy access to product and technical information.				

\*Available on 6.4L and 6.0L Ford Remanufactured diesel engines, subject to bore spray manufacturing capacity. See your Ford and Lincoln dealer for details. \*\*See your seller for limited-warranty details.

	Original Equipmen	t Quality Benefits						
All New Components								
Water Pump	· Glow Plugs	· Pistons						
Oil Cooler	<ul> <li>Gaskets and Seals</li> </ul>	Piston Rings						
Valves and Valve Guide Inserts	· O-Rings	· Sensors						
Block Heater	· Thermostat	· EGR Cooler (6.0L only)						
	Remanufactu	ring Process						
State of the art bore spray welding proc size cylinder bores in brand new condit Cylinder bores are diamond plateau ho designed for reduced oil consumption, and power cylinder durability Cylinder head to block mating surface i optimum flatness and surface finish. 1 heads are Wet Magnaflux checked for o	ion* ned to OEM specifications optimum performance, machined to ensure 00% of remanufactured rracks	<ul> <li>6.0L and 6.4L turbochargers incorporate component and assembly high speed balancing to help ensure optimum balance and NVH characteristics. This contributes toward quiet operation and maximum bearing life</li> <li>Connecting rods and caps are kept as a matched set throughou the remanufacturing process and are fitted with new connecting rod bolts, ensuring maximum bearing life</li> <li>Camshafts are checked for clearance, dimensional tolerance, heat treatment, and surface finish criteria ensuring maximum</li> </ul>						
Crankcase is 100% leak tested for leak and the air management system to hel High pressure oil pumps are leak and p specified flow/pressure criteria	p ensure sealing integrity	<ul> <li>bearing life and design strength</li> <li>Complete (6007) and Long Block (6006) engines must pass ar engine dynamometer hot test and oil analysis</li> </ul>						

\*Available on 6.4L and 6.0L Ford Remanufactured diesel engines, subject to bore spray manufacturing capacity.

## 6.4L DIT

Trim Level	Bill of Materials	Short Block Enhanced (6009)	Long Block Enhanced (6006)	Complete (6007)
	Breather			•
	Exhaust Tubes			
	Exhaust Crossover Pipes with Converter			
	EGR Cooler # 1 (Horizontal)			
Inn Level	Fuel Cooler			
	Fuel Cooler Tube			•
	Heater Tube			
Ocemericate (COOT)	Oil Fill Cap			
	Sensor - EGR Cooler Outlet Temperature (EGRT - In)			
	Sensor - Exhaust Back Pressure (EBP)			
	Turbocharger (Dual Stage)			
	Block Heater			
	Cylinder Heads			
	Exhaust Manifold			
	Fuel Injectors			
	Fuel Pump			
	Fuel Pump Gear			
	Fuel Rails			
No. State	Fuel Return Tube			
A STATES	Fuel Supply Tube			
10-50C	Glow Plugs			
	Intake Manifold			
	Lifting Eyes			
Model Years 2008-2010	Push Rods			
	Sensor - Intake Air Temperature (IAT2)			
	Turbo Oil Drain Tube			
	Turbo Supports			
	UVC Harnesses			
	Valve Covers			
	Vibration Damper			
	Water Pump			
	Camshaft			
	Connecting Rods			
	Cylinder Block			
	Crankshaft			
	Front Cover			
_	Front Seal			
	Lifters			
and the second s	Oil Cooler			
A DESCRIPTION	Oil Filter and Base			
0 10 1000	Oil Pan and Pick-up Tube			
	Oil Pump Assembly			
	Pistons/Rings			
Short Block Enhanced (6009)	Rear Cover			
Model Years 2008-2010	Rear Seal			
	Sensor - Camshaft Positioning (CMP)			
	Sensor - Crankshaft Position			
	Thermostats (Dual)	-	-	-
	Cylinder Head Gaskets	Kit		
	Fuel Pump to Fuel Rail Tubes	Kit	Kit	
	Fuel Filters	Kit	Kit	-
	Injector to Fuel Rail Tubes	Kit	Kit	-

**NOTE:** Kit indicates the component is supplied in the install kit provided with the 6009 Short Block Enhanced or the 6006 Long Block Enhanced. **Ask your seller about these engines available with studs.** 

## 6.0L DIT

Trim Level	Bill of Materials	Short Block (6009)	Long Block Stripped (6006)	Long Block (6006)	Complete (6007)
	CDR Valve/Breather				
	EGR Cooler				
	EGR Valve				
	EVRT Control Valve				
	Exhaust Manifolds				
	Fuel Filter Assembly				
	Fuel Filter Bracket				
5	Fuel Lines	1			
	Intake Manifold				
Land	Oil Filter and Base				
Complete (6007)	Sensor - EBP Exhaust Back Pressure				
Model Years 2003-2007	Sensor - Manifold Air Temperature				
	Turbo Air Inlet				
	Turbo Piping				
	Turbocharger Assembly with Base				
	Water Outlet and Thermostat	1			
	Engine Heater	1			
	Glow Plugs			•	
	High Pressure Oil Pump				
Constanting .	Injection Pressure Regulator Valve				
A CONTRACTOR OF THE OWNER	Injectors (Electronic)			•	•
8	Sensor - CMP Camshaft Positioning			•	•
	Sensor - Crankshaft Position			•	
Lang Black (COOC)	Sensor - Engine Oil Pressure			•	•
Long Block (6006) Model Years 2003-2007	Sensor - ICP Injection Control Pressure				
	Sensor - Water Temperature				
	Valve Covers & Gaskets				
	Cylinder Head Assembly	1		•	
	Front Cover				
	Front Seal				
A CONTRACTOR	Oil Cooler Assembly				
San Steel	Oil Pan and Pick-up Tube				
	Oil Pump Assembly				
	Push Rods				
	Rear Cover	1			
	Rear Seal				
Long Block Stripped (6006) Model Years 2003-2007	Rocker Arm Carrier				•
	Sensor - EOT Engine Oil Temperature			•	•
	Valves			•	•
	Vibration Damper				•
	Water Pump Assembly			•	•
	Camshaft	-		•	•
A	Camshaft Bearings		•	•	
No. of the second se	Connecting Rods				
SHORE SHORE	Crankshaft				•
A CONCEPT	Cylinder Block				
- 126	Lifters				
and the second	Main/Rod Bearings				•
Short Block (6009) Model Years 2003-2007	Piston Cooling Tubes				
Mouel leais 2003-2007	Pistons/Rings				•
	Timing Components				

## 7.3L DIT

Trim Level	Bill of Materials	Long Block Stripped (6012)	Long Block Enhanced (6012)	Long Block (6006)	Complete (6007)
	Adapter, Exhaust Inlet				
~	Engine Block Heater				
T V V S	CDR Valve				
- Contraction of the second se	Exhaust Manifolds-Left and Right				
	Fuel Filter Assembly				•
5	Fuel Lift Pump **				
SU SU	Sensor Water Temp				
	Tube, Exhaust Left and Right				•
Complete (6007)	Turbocharger Assembly with Pedestal				-
Model Years 1994-2003	Water Outlet and Thermostat				
	Water Pump Assembly				
	Glow Plugs				
and	High Pressure Oil Pump and Regulator				
Sales and	Injectors (Electronic)				
Prove P	Sensor - CMP Camshaft Positioning				•
US SPAS	Sensor - EBP Exhaust Back Pressure				
	Sensor - EOT Engine Oil Temperature				•
Long Block (6006) Model Years 1994-2003	Sensor - ICP Injection Control Pressure			•	•
Model fears 1994-2003	Vibration Damper				•
	Intake Manifold		•	•	•
	Oil Filter				
-	Oil Pan				
- LE	Valve Cover Gaskets				
March States of	Valve Covers				•
1000	Cylinder Head Assembly *				
THE REAL	Front Cover	•	•		•
	Front Seal	•	•		•
	Oil Cooler Assembly	•			•
Long Block Enhanced (6012) Model Years 1997-2003	Oil Pump Assembly	•			
	Push Rods	•			•
	Rear Cover	•			
	Rocker Arms		•		•
	Valves	•	•	-	-
	Cam Bearings	•			-
0	Camshaft				•
and all the second	Connecting Rods				•
State of the second	Crankcase Dowel Pin Kit	•			•
1	Crankshaft	-	-		-
- ALLA	Cylinder Block	•			•
	Lifters	•			•
	Main/Rod Bearings	•			•
Long Block Stripped (6012) Model Years 1994-1995	Piston Cooling Tubes Pistons/Rings				•
	Rear Seal			•	•
		-			-
	Timing Components				

\* Updated 10 bolt intake cylinder heads \*\* Included on F-650/F-750 and all F-250/F-350 prior to 98.5 MY

# Extend the Life of your Engine! Diesel Engine Overhaul Kits

If your engine block and other major external components are in good condition, an overhaul kit is for you. These Original Equipment (OE) engine overhaul kits deliver an affordable alternative to purchasing an aftermarket rebuilt or used engine.

# KITS AVAILABLE FOR 6.4L, 6.0L, 7.3L AND 6.9L ENGINES

## **COMPETITIVE ADVANTAGES**

- 100% new genuine OE parts ensure quality
- Proprietary engineering enhancements
- Complete bill of materials helps you begin with confidence, knowing you have all the parts you need
- OE instruction sheets for specific part installations
- New oil cooler included, resulting in higher-quality repair\*
- Nationwide Warranty Coverage (See reverse)

\* Oil cooler only included in 6.0L and 6.4L kits



## 6.4L POWER STROKE DIESEL ENGINE OVERHAUL KIT 111 unique part numbers and 359 total kit pieces

## **Upgraded Components Extend Service Life**

- Connecting Rod Bearings
   Machined chamfering
- Crankshaft Bearings
   Improved bearing overlay
- Engine Sensors
  - More robust design
- Exhaust Flange Gaskets - Thicker material to improve load distribution and sealing
- Front Crankshaft Seal
  One-piece design helps prevent leaks
- High Pressure Pump Gasket
   Enhanced shielding to help prevent wire chafing
- Low Pressure Oil Pump

   Redesigned assembly reduces engine noise
- Oil Cooler & Water Pump Gaskets
  - Improved compound helps prevent deterioration and leaks
- Thermostat
  - Redesigned bypass plate helps prevent damage at high-rpms

#### Additional New Genuine OE Parts

- Pistons, Pins, and Rings
- Oil Cooler
- Glow Plugs & Harnesses
- EGR Cooler Hoses & Clamps
- Cylinder Head Gaskets & Bolts
- Crankcase Breather
- Turbocharger Oil Feed Line
- Oil and Fuel Filters
- High Pressure Pump Tubes
- Fuel Injector Tubes
- All required Bearings
- All required Gaskets & Installation Hardware

# **Engine Overhaul Kit Applications**

Engine	Model Year	Application	Engine S/N Breaks	Piston & Ring Size			
				Standard	.010 Oversized	.020 Oversized	.030 Oversized
6.4L	F-250 / F-550						
	2008-2010	All	-	8C3Z-6R007-A	8C3Z-6R007-B	8C3Z-6R007-C	8C3Z-6R007-D
6.0L	F-250 / F-550						
	2004-2007*	Late '04 Prod.	6,155,637 & Up	4C3Z-6R007-C	4C3Z-6R007-A	4C3Z-6R007-B	-
	E-Series						
	2004-2010	All	-	4C3Z-6R007-C	4C3Z-6R007-A	4C3Z-6R007-B	-
	Excursion						
	2004-2005*	Late '04 Prod.	6,155,637 & Up	4C3Z-6R007-C	4C3Z-6R007-A	4C3Z-6R007-B	-
	F-650 / F-750						
	2004-2007*	Late '04 Prod.	137,745 & Up	-	4C4Z-6R007-A	4C4Z-6R007-B	-
7.3L / 6.9L	F & E-Series						
	1994-2003	7.3L DIT	-	2C3Z-6R007-A	2C3Z-6R007-B	2C3Z-6R007-C	2C3Z-6R007-D

\* Refer to your engine serial number to verify the correct overhaul kit for 2004 model year vehicles.

FORD PARTS WARRANTY



2 YEARS

## Service Part Warranty on Genuine Ford & Motorcraft Parts

- 2 Years / Unlimited Miles
- Includes Labor\*
- No Commercial Exceptions

 $\ensuremath{^*\text{Labor}}$  may have a limit. See your seller for a copy of the limited warranty.



www.PowerStrokeDiesel.com



GENUINE **POWER.** GENUINE **PERFORMANCE.** GENUINE **PARTS.** 

# **Lower Cost Repair Option**

Ford Remanufactured 6.4L & 6.0L Cylinder Heads

## Only Genuine Ford Remanufactured 6.4L and 6.0L Cylinder Heads Feature Proprietary OE Engineering Enhancements

Product engineering and remanufacturing processes are continuously improved to help minimize downtime and repair expense while maximizing durability and performance.

> 6.4L cylinder head shown

- Cylinder head to block mating surface machined to help ensure optimum flatness and surface finish
- Precision machined guides and seats help ensure consistent valve sealing
- Multi-stage precision leak decay testing helps ensure consistent valve sealing
- Quality remanufacturing processes listed below help ensure durability:
  - 100% of remanufactured heads are wet magnaflux checked for cracks
  - 100% new OEM valves are installed
  - Precision CNC replacement of all worn valve guides outside of specification (no oversizing)

Ford Part #	Model Year	Application					
6.4L CYLINDER HEAD KIT							
8C3Z-6049-BRM	2008-2010	F-250/F-550					
6.0L CYLINDER HEAD KITS							
	2004.25-2007	F-250/F-750					
6C3Z-6049-DRM*	2004-2010	E-SERIES					
	2004.25-2005	EXCURSION					
	2003-2004	F-250/F-750					
3C3Z-6049-ARM*	2004-2006	E-SERIES					
	2003-2004	EXCURSION					

\*To ensure proper cylinder head replacement, refer to cylinder head kit selection chart located on reverse.



•Two Years/Unlimited Miles\*
 • Includes Labor\*
 • No Commercial Exceptions

\*Labor may have a limit. See your seller for a copy of the limited warranty.

# **6.OL Replacement Cylinder Head Kit Selection**


# The 6.OL Ford Power Stroke<sup>®</sup> Diesel Engine Now Available with Head Studs

### The 6.0L Ford Power Stroke®Remanufactured Engine:

- Features standard sized cylinder bores in brand new condition, resulting from state-of-the-art bore spray welding procedure
- Cylinder bores are diamond plateau honed to OEM specifications for reduced oil consumption, optimum performance, and power cylinder durability
- Turbocharger high speed balancing ensures optimum NVH characteristics, quiet operation, and maximum bearing life (complete engines, base part number 6007)
- Dynamometer hot test and oil analysis performed on every engine to ensure quality





#### Choose the Remanufactured Diesel Engine That Can't Be Beat! Ask About:

- OEM perfect fit every time
- No-risk core return
- Bore spray technology
- · Same or next day delivery
- Competitive prices
- Nationwide warranty coverage



\*Labor may have a limit. See your seller for a copy

of the limited warranty.

### Now Available! 6.0L Engine Studded Head Kit Option.

Standard Ford Part #	Studded Ford Part #	Model Year	Application	ESN Breaks*
F-SERIES				
<b>Complete Engines</b>				
6C3Z-6007-BARM	6C3Z-6007-CARM	2006-2007	F-250/F-550 w/ Auto Trans (Late '06 Prod.)	6,723,722 & Up or 299,093 & Up
5C3Z-6007-DARM	5C3Z-6007-GARM	2005-2006	F-250/F-550 w/ Auto Trans (Late '05 Early '06 Prod.)	6,429,302 то 6,723,721 ок 181,448 то 299,092
5C3Z-6007-BARM	5C3Z-6007-HARM	2005	F-250/F-550 w/ Auto Trans (Early '05 Prod.)	6,344,943 то 6,429,301 ог 131,587 то 181,447
4C3Z-6007-BARM	4C3Z-6007-CARM	F-250/F-550 w/ Auto Trans (Late Prod.)	6,155,637 10 6,344,942	
3C3Z-6007-AARM	3C3Z-6007-CARM	2003-2004	F-250/F-550 w/ Auto Trans (Early '04 Prod.)	6,000,000 10 6,155,636
Long Block Engine				
6C3Z-6006-BARM	6C3Z-6006-CARM	2006-2007	F-250/F-550 w/ Auto Trans (Late '06 Prod.)	6,723,722 & Up or 299,093 & Up
5C3Z-6006-BARM	5C3Z-6006-DARM	2005-2006	F-250/F-550 w/ Auto Trans (Early '06 Prod.)	6,344,943 то 6,723,721 ок 131,587 то 299,092
4C3Z-6006-BARM	4C3Z-6006-CARM	2004	F-250/F-550 w/ Auto Trans (Late Prod.)	6,155,637 то 6,344,942
3C3Z-6006-AARM	3C3Z-6006-CARM	2003-2004	F-250/F-550 w/ Auto Trans (Early '04 Prod.)	6,000,000 to 6,155,636
E-SERIES				
Complete Engines				
6C2Z-6007-AARM	6C2Z-6007-BARM	2006-2010	E Series (Late '06 Prod.)	299,093 & UP
Long Block Engine				
6C2Z-6006-AARM	6C2Z-6006-BARM	2006-2010	E Series (Late '06 Prod.)	299,093 & UP

\*Refer to your engine serial number to verify the correct engine replacement part number.



www.PowerStrokeDiesel.com

Sond Motorcraft.

# Ford<sup>®</sup> and Motorcraft<sup>®</sup> 6.0L Head Gasket and Kits

# **AVAILABLE WITH HEAD STUDS!**

Ford and Motorcraft 6.0L Head Gasket and Head Gasket Kits offer the OE parts you need, no throwing away unwanted bolts!



	HEAD GASKET ONLY	
Ford/Motorcraft Part Number	Application	Contents
KC3Z-6051-A (FORD) CHG-1 (MOTORCRAFT)	Build date 9/29/03 and earlier: • 2003-2004 F250-F550 • 2003-2004 Excursion • 2004 F650-F750	• Gasket only (18mm)
KC3Z-6051-B (FORD) CHG-2 (MOTORCRAFT)	Build date 9/30/03 and later: • 2004-2010 Econoline • 2004.25-2007 F250-F750 • 2004.25-2005 Excursion	• Gasket only (20mm)

ORD PARTS VARRANTY	Service Part Warranty on Genuine Ford and Motorcraft Parts
INLIMITED	$\cdot$ Two Years/Unlimited Miles* $\cdot$ Includes Labor* $\cdot$ No Commercial Exceptions
	*Labor may have a limit. See your seller for a copy of the limited warranty.
2 VEADS	

FC W

# 6.OL Head Gasket and Kits — cont'd

	HEA	D GASKET KITS WITH STUDS				
Ford Part Number	Application	Description	Contents			
JC3Z-6051-C	Build date 9/29/03 and earlier: • 2003-2004 F250-F550 • 2003-2004 Excursion • 2004 F650-F750	Early MY Head Gasket Kit with <b>ARP Studs</b> For heads with 18mm dowels and     round "log" oil rails	<ul> <li>Cylinder Head Gasket</li> <li>ARP Stud Kit</li> <li>Case to Head Tube</li> <li>Spring Dowel Pin 18mm</li> <li>Stepped Dowel Pin</li> </ul>			
JC3Z-6051-FA	<ul> <li>2004-2005 Econoline</li> <li>2004-2005 F650-F750</li> <li>2003-2005 Excursion</li> <li>2004-2005 F250-F550</li> </ul>	<ul> <li>Mid MY Head Gasket Kit with ARP Studs</li> <li>For heads with 18mm dowels and "wavy" oil rails</li> </ul>	Cylinder Head Gasket     ARP Stud Kit     Case to Head Tube     Spring Dowel Pin 18mm     Stepped Dowel Pin			
JC3Z-6051-D	Build date 9/30/03 and later: • 2004-2010 Econoline • 2004.25-2007 F250-F750 • 2004.25-2005 Excursion	<ul> <li>Late MY Head Gasket Kit with ARP Studs</li> <li>For heads with 20mm dowels and "wavy" oil rails</li> </ul>	Cylinder Head Gasket     ARP Stud Kit     Case to Head Tube     Spring Dowel Pin 20mm     Stepped Dowel Pin			
	HEA	D GASKET KITS WITH BOLTS				
3C3Z-6051-CB	Build date 9/29/03 and earlier: • 2003-2004 F250-F550 • 2003-2004 Excursion • 2004 F650-F750	<ul> <li>Early MY Head Gasket Kit with Bolts</li> <li>For heads with 18mm dowels and round "log" oil rails</li> </ul>	Cylinder Head Gasket     Bolts     Case to Head Tube     Spring Dowel Pin 18mm     Stepped Dowel Pin			
4C4Z-6051-EB	<ul> <li>2004-2005 Econoline</li> <li>2004-2005 F650-F750</li> <li>2003-2005 Excursion</li> <li>2004-2005 F250-F550</li> </ul>	<ul> <li>Mid MY Head Gasket Kit with Bolts</li> <li>For heads with 18mm dowels and "wavy" oil rails</li> </ul>	Cylinder Head Gasket     Bolts     Case to Head Tube     Spring Dowel Pin 18mm     Stepped Dowel Pin			
6C3Z-6051-AA	Build date 9/30/03 and later: • 2004-2010 Econoline • 2004.25-2007 F250-F750 • 2004.25-2005 Excursion	<ul> <li>Late MY Head Gasket Kit with Bolts</li> <li>For heads with 20mm dowels and "wavy" oil rails</li> </ul>	Cylinder Head Gasket     Bolts     Case to Head Tube     Spring Dowel Pin 20mm     Stepped Dowel Pin			
	HEAD GASK	ET KITS WITHOUT STUDS OR BOLTS				
JC3Z-6051-A	Build date 9/29/03 and earlier: • 2003-2004 F250-F550 • 2003-2004 Excursion • 2004 F650-F750	<ul> <li>Early MY Head Gasket Kit without Studs or Bolts</li> <li>For heads with 18mm dowels and round "log" oil rails</li> </ul>	Cylinder Head Gasket     Case to Head Tube     Spring Dowel Pin 18mm     Stepped Dowel Pin			
JC3Z-6051-EA	2004-2005 Econoline     2004-2005 F650-F750     2003-2005 Excursion     2004-2005 F250-F550	<ul> <li>Mid MY Head Gasket Kit without Studs or Bolts</li> <li>For heads with 18mm dowels and "wavy" oil rails</li> </ul>	Cylinder Head Gasket     Case to Head Tube     Spring Dowel Pin 18mm     Stepped Dowel Pin			
JC3Z-6051-B	Build date 9/30/03 and later: • 2004-2010 Econoline • 2004.25-2007 F250-F750 • 2004.25-2005 Excursion	Late MY Head Gasket Kit without Studs or Bolts     For heads with 20mm dowels and "wavy" oil rails	Cylinder Head Gasket     Case to Head Tube     Spring Dowel Pin 20mm     Stepped Dowel Pin			



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# **Original Equipment Glow Plugs**

How to Identify Bad or Worn Glow Plugs

Heating rod with folds and dents



Heating rod melted, melted through, or broken





Tip of heating rod damaged



# **Original Equipment Glow Plugs**

**Components and Features** 

The primary purpose of the glow plug system is to warm up the engine cylinders to improve cold engine starting.

#### **Connecting Bolt**

Relays electrical current from the battery to the control spiral.

#### **Premium Insulation**

Retains all electrical current entering plug body while also making the plug waterproof.

#### **Glow Pipe**

Equal wall thickness throughout the body of the glow plug. This helps protect the plug from uneven heating which can cause the plug to fail.

### **Control Spiral**

First spiral of two-spiral technology. Attached to the connection bolt, it relays and controls the electrical current sent to the heating spiral. Controls the temperatures throughout the 3 phases of burn.

- **1.** Before the start
- 2. During the start
- 3. During engine operation (3 min)

#### **Insulation Filling**

Filled with high quality ceramic magnesite powder. Packed so tightly the thin wires of the heating and control spiral can withstand oscillation without crossing, which could create a short circuit.

### **Heating Spiral**

Second spiral of two-spiral technology. Made of highly temperature-resistant material and positioned centered between the glow pipe walls providing an equal glow. Heats to full glow potential in 2 to 5 seconds.



# **Original Equipment Glow Plugs** 5-fold security for top quality

### **OE** Approved

1. Motorcraft Glow Plugs are the only glow plugs approved by the engine manufacturer and Ford Motor Company.

### **High Quality Standards**

2. All glow plugs are built to exact specifications to ensure the best possible fit and finish.

### Long Lasting

3. Motorcraft Glow Plugs undergo a series of environmental tests against corrosiveness and materials to help ensure long life.

### **Special Motorcraft Testing**

4. Motorcraft Glow Plugs are subjected to special tests that are designed to replicate the practical demands of daily running and garage repair. Motorcraft expects a minimum of 10,000 ignition cycles from every glow plug produced.

### Warranty

 Motorcraft glow plugs are covered by a 12 month/12, 000 mile (20, 000 km) warranty. All warranties are backed by Ford Motor Company and supported by more than 4, 000 Ford and Lincoln Mercury Dealerships nationwide, or at originating place of service.

See dealer for limited-warranty details.

# Fird Power Stroke DIESEL

## Summary

Motorcraft's result is the only glow plug designed specifically for your Ford Power Stoke Diesel Engine. The competition can only attempt to recreate our rigorous testing and patented designs.

# **Original Equipment Glow Plugs**

How to Recognize Low Quality Glow Plugs



# **Motorcraft Remanufactured High Pressure Fuel Pumps**

**Only Genuine Motorcraft Remanufactured High Pressure Fuel** Pumps (HPFP) feature proprietary engineering enhancements to help maximize durability and performance. Ford has exclusive access to the original blueprint data and OE specifications. Competitors use reverse engineering to try to duplicate OE specifications which may miss the mark significantly.



Note: 6.4L High Pressure Fuel Pump shown

	Product Features	Ford	Competitors
12	Transfer Pump and Pump Cover	Upgraded vane ring, new vanes, and new relief valve help provide required flow to the piston for optimal performance and reliability.	Reused vane rings and vanes can cause low performance conditions.
3	Housing and Wear Shim	Pump housings are machined at the pressure surface area and a new shim is installed to maintain OE dimensions and help provide excellent servicability.	Unmachined pressure surface areas can result in leaks and reduce pump performance.
4	Crankshaft Sleeve	New sleeves at the critical sealing area provides a new sealing surface and helps prevent fuel leaks into the engine.	Utilizing existing crankshaft and trying to grade the wear may cause a seal leak which can lead to an over-fueling condition.
5	Steering Disc	100% new enhanced spacers and spring washers address internal leaks that can occur as a result of movement during the operation of the pump.	"As-is" springs and spacers may create loose and leaking conditions that can reduce pump performance.



www.PowerStrokeDiesel.com

Motorcraft. Ford

# Motorcraft Remanufactured High Pressure Oil Pumps



Note: 7.3L DI High Pressure Oil Pump shown

	Product Features	Ford	Competitors
1	Housing	High density aluminum alloy sleeve helps restore OEM geometry for strength and durability.	Over-sized cylinder bores decrease the press fit of the bearing block, which may result in inadequate pressure to actuate the fuel injectors.
2	Control Face	High density aluminum alloy insert is used as needed to help restore OEM geometry for strength and durability.	Worn cavitated control faces compromise sealing during the pressure cycle, which may cause the pump to leak fluid and/or result in inadequate pressure to actuate the fuel injectors.
3	Relief Valve*	New relief valve seat and updated RV sleeve help restore leak free operation and reduce the possibility of a shifted sleeve.	Worn relief valve seats and RV sleeves may result in fluid leaks during the pressure building cycle which can cause inadequate oil volume delivery to the injectors.

\*Only applicable on 7.3L



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Ford Motorcraft

# When Should Motorcraft Filters Be Replaced?

- Filters should be replaced as part of scheduled maintenance
- Listed below are recommended maintenance intervals on select filters and oil
- Part numbers available at the time of this publication can be found on the previous page
- A complete maintenance schedule specific to your vehicle can be found in your Owner Guide Diesel Supplement or at the following web address: <u>http://www.owner.ford.com</u>

Ford Recomme	ended Normal Maintenanc	e Schedule				
Filter Type	6.7L Engine	6.4L Engine	6.0L Engine	7.3L Engine		
Air Filter	Check air restriction gauge at every oil change. Replace as needed.	Inspect filter minder every 10,000 miles (16,000 km). Replace as needed.	Inspect filter minder every 7,500 miles (12,000 km). Replace as needed.	Inspect filter minder every 5,000 miles (8,000 km). Replace as needed.		
Fuel Filter(s)*	22,500 miles (36,000 km) (Every 3rd oil change)	20,000 miles (32,000 km)	15,000 miles (24,000 km)	15,000 miles (24,000 km)		
Oil Filter and Oil Check Message Center.		10,000 miles (16,000 km)	7,500 miles (12,000 km)	5,000 miles (8,000 km)		
Ford Recomme	ended Special Operating C	conditions Schedule**				
Filter Type	6.7L Engine	6.4L Engine	6.0L Engine	7.3L Engine		
Air Filter	Check air restriction gauge every 7,500 miles (12,000 km). Replace as needed.	Inspect filter minder every 5,000 miles (8,000 km). Replace as needed.	Inspect filter minder every 5,000 miles (8,000 km). Replace as needed.	Inspect filter minder every 3,000 miles (4,800 km). Replace as needed.		
Fuel Filter(s)*	15,000 miles (24,000 km), or 600 engine hours.	10,000 miles (16,000 km), 400 engine hrs. or 6 months (every other oil & oil filter change)	10,000 miles (16,000 km) or 400 engine hrs. (every other oil & oil filter change)	15,000 miles (24,000 km)		
Oil Filter and Oil	Check Message Center.	5,000 miles (8,000 km), 200 engine hrs. or 3 months.	5,000 miles (8,000 km), 200 engine hrs. or 3 months.	3,000 miles (4,800 km) or 3 months.		

\*Drain fuel filter/water separator monthly, or sooner, if the WATER IN FUEL light illuminates in the instrument cluster.

\*\* Special Operating Conditions include extensive towing, long idle time, extended low speed driving, biodiesel use, and off road/dusty conditions.



# Why Motorcraft Filters?

Quality & Confidence – Motorcraft filters meet all new vehicle warranty requirements, reduce engine wear, and help enhance engine performance and reliability.

#### **Air Filter**

### 6.7L Engines

- Contains twice the amount of filter media versus conventional pleated filters
- Meets 98.5% efficiency standard in coarse dust testing and has excellent dirt retention properties
- Dry type cleaner elements are chemically treated to withstand damage from oil and moisture
- Tight, leak proof, polyurethane seals and specially designed adhesives help performance and withstand elevated under-hood temperatures

#### **Fuel Filter**



- FD-4615 kit contains one replacement cartridge, one complete filter assembly, and associated gaskets
- Makes for easy maintenance (less labor) because only one cartridge is replaced and the second filter is replaced as an assembly
- Environmentally conscious top-load cartridge element
- 98% efficient @ 10 microns and larger
- Water removal efficiency is 96.5% or greater

### **Oil Filter**



**Motorcraft Diesel Motor Oil** 

- Achieves an efficiency of 98% at 18 microns and holds up to 29 grams of contaminants
- Holds 1.5 quarts of oil
- Rated at 20 microns absolute
- Dust holding capacity of 29 grams
- 100% microglass media
- Silicone anti-drain back valve

5W-30 F-150 Full Synthetic

Diesel Motor Oil



- 99.99% efficient @ one micron\* and larger, holds over three pounds before needing replacement
- Contains twice the amount of filter media versus conventional pleated filters
- Same filter technology as used in the M1 Abrams tank!
- Environmentally conscious primary and secondary cartridge elements
- 95% efficient @ four microns and larger\*
- Exclusive, patented Aquabloc technology used to treat filter media helps separation of water from fuel
- Water removal efficiency is 95% or greater



- 95% efficient @ 20 microns and larger\*
- Environmentally conscious, top-load, "dripless" cartridge element Precisely engineered for your Power Stroke Diesel engine





- Recommended for use in F-150 3.0L Power Stroke Diesel engines and Transit Connect
  - 1.5L Power Stroke Diesel engines Meets Ford specification WSS-M2C214-B1 and the
  - requirements of API Service FA-4 Helps with: providing soot control,
- protection against wear, deposits, rust and 10W-30 F-150 Diesel Motor Oil corrosion, foaming, sludge formation, high temperature oxidation and thickening



10W-30 Super Duty® Diesel Motor Oil

15W-40 Super Duty® Diesel Motor Oil

5W-40 Full Synthetic Diesel Motor Oil

- Specially formulated for use in 6.7L, 6.4L, 6.0L, 7.3L and 3.2L Power Stroke® Diesel engines
  - Low ash formulation designed for conventional and turbocharged diesel engines using Ultra Low Sulfur Diesel Fuel
- Meets API Performance Category CJ-4 (15W-40, 10W-30, 5W-40)
- Minimizes foaming, provides excellent soot control, and fights sludge, varnish, rust, corrosion, and wear

#### 7.3L Engine



- Meets 98.5% efficiency standard in coarse dust testing and has excellent dirt retention properties
- Dry type cleaner elements are chemically treated to withstand damage from oil and moisture
- Tight, leak proof, polyurethane seals and specially designed adhesives help performance and withstand elevated under-hood temperatures
- Environmentally conscious top-load cartridge element
- 98% efficient @ 10 microns and larger\*
- Water removal efficiency is 96.5% or greater

Motorcraft Air	Motorcraft Air Filters											
Model Year	Engine	Part Number										
2018-Present	3.0L F-150	FA-1883										
2018-Present	1.5L Transit Connect	FA-1938										
2017-Present	6.7 DIT F-250/550	FA 1927										
2015-Present	3.2L Transit	FA-1916 and FA-1921										
2011-2016	6.7L DIT F-250/550	FA-1902 and FA-1909										
2008-2010	6.4L DIT F-250/550	FA-1886										
2006-2009	4.5L LCF-Series	FA-1779										
2004-2010	6.0L DIT E-Series	FA-1804										
2003-2007	6.0L DIT F-250/550, Excursion	FA-1778										
2003-2007	6.0L DIT F-650/750	FA-1753										
2000-2003	7.3L DIT F-650/750	FA-1738										
1999.5-2003	7.3L DIT F-250/550, Excursion	FA-1750										
1999	7.3L DIT F-250/550	FA-1675										
1995-2003	7.3L DIT E-Series	FA-1618										
1994-1998	7.3L DIT F-250/550	FA-1617										
1992-1994	7.3L IDI E-Series	FA-1079										
1983-1994	6.9L IDI / 7.3L IDI & IDIT F-250/550	FA-1057										
1983-1991	6.9L IDI / 7.3L IDI & IDIT E-Series	FA-1057										

Motorcraft Fu	el Filters	
Model Year	Engine	Part Number
2018-Present	3.0L F-150	FD-4627
2018-Present	1.5L Transit Connect	FD-4630
2017-Present	6.7 DIT F-250/550	FD-4625 (kit)
2015-Present	3.2L Transit	FD-4621
2011-2016	6.7L DIT F-250/550	FD-4615 (kit)
2008-2010	6.4L DIT F-250/550	FD-4617
2006-2009	4.5L LCF-Series	FD-4616
2004-2010	6.0L DIT E-Series	FD-4606
2003-2007	6.0L DIT F-250/550, Excursion	FD-4616
2003-2007	6.0L DIT F-650/750	FD-4596
1998.5-2004	7.3L DIT F-250/750, Excursion, E-Series	FD-4596
1994-1997	7.3L DIT F-250/550, E-Series	FD-4595
1988-1994	7.3L IDI & IDIT F-250/550, E-Series	FD-3375
1983-1987	6.9L IDI F-250 & 350, E-Series	FD-811



- 98% efficient @ 18 microns and larger\*
- The anti-drain-back valve prevents dry starts with material formulated to resist aging from engine heat

Motorcraft Oil	Motorcraft Oil Filters												
Model Year	Engine	Part Number											
2018-Present	3.0L F-150	FL-2081											
2018-Present	1.5L Transit Connect	FL-2082											
2015-Present	2015-Present 3.2L Transit												
2011-Present	6.7L DIT F-250/550	FL-2051-S											
2008-2010	6.4L DIT F-250/550	FL-2016											
2006-2009	4.5L LCF-Series	FL-2029											
2003-2010	6.0L DIT F-250/750, E-Series, Excursion	FL-2016											
1994-2003	7.3L DIT F-250/750, E-Series, Excursion	FL-1995											
1983-1994	6.9L IDI/7.3L IDI & IDIT, E-Series, F-250 & 350	FL-784											

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# MOTORCRAFT® 6.7L TURBOCHARGER

### The Motorcraft Advantage

- First-to-market remanufactured turbocharger for this application
- Product is competitively priced
- Exceeds Ford Engineering's rigorous remanufacturing test requirements
- 2 year/Unlimited Warranty

### **6.7 Turbocharger Features**

- Produced with a high-performance bearing for increased durability
- Meets OEM Emissions Testing Standards
- Only remanufactured 6.7 Turbocharger to use OEM balancing techniques
- Demanding balancing specifications yield lower noise, vibration and harshness ratings
- Remanufactured in the USA



6.7L Dual Scroll Turbo
 Part#G2MZ-6K682-ARM



Limited labor costs. See seller for warranty details. No commercial exceptions. © 2017 Ford Motor Company



### **Right Part. Priced Right.**

Motorcraft® is a registered trademark of Ford Motor Company

MA-22300

# **Choose Genuine Motorcraft Remanufactured FICMs**

# **Aftermarket Units Can't Compare**

Only Genuine Motorcraft Remanufactured Fuel Injection Control Modules (FICMs) feature proprietary engineering enhancements.

Product engineering and remanufacturing processes are continuously improved to minimize downtime and repair expense while maximizing durability and performance.

#### **Product Features:**

- New, re-engineered resistors feature robust "shock absorber" electrical leads to resist solder cracking due to vibration
- Vacuum-checked, gasketed cover resists leaks
- Unpainted aluminum housing releases
   heat to protect internal components

#### **Pre-programmed FICM**

- When every moment of downtime matters, busy shops will reach for a Pre-programmed FICM.
- It's perfect for field repairs because there's no need to tow the vehicle, transport programming equipment to the repair site or perform any programming back at the shop.
- Just swap the unit and the engine is back in service.



\*NOTE: F650 / F750 and LCF applications require programming at the time of installation.

#### **Robust Processing:**

- Updated circuit board torque procedure enhances service life
- Improved tooling for precise unit assembly
- Enhanced end-of-line quality checks and thermal testing

Ford Service Part #	Motorcraft Part #	Applications	Model Years
HC3Z-12B599-ARM		F-250 / F-550	2003 - 2004
HU32-12B399-ARM	FICM-1-RM	Excursion	2003 - 2004
HC3Z-12B599-BRM	FICM-2-RM	F-250 / F-550	2005 - 2007
HC32-12D399-BRM	FICIVI-2-RIVI	Excursion	2004 - 2005
		F-250 / F-550	2005 -2007
HC3Z-12B599-CRM	FICM-3-RM	Excursion	2005
		E-Series	2004 - 2010
HC3Z-12B599-DRM*	FICM-5-RM	LCF	2006 - 2007
nc32-12d399-DKM*		F-650 / F-750	2003 - 2007

\* This FICM includes base horsepower calibration which should be programmed /updated upon installation.

# Factory Engineered. Factory Backed.

Motorcraft Remanufactured FICMs are backed by a comprehensive Service Part Warranty. Parts and labor\* are covered for two years and unlimited miles with no commercial exceptions, so you can install with confidence!

Two-Year / Unlimited Miles	FORD PARTS WARRANTY
Includes Labor*	UNLIMITED
No Commercial	MILEAGE
Exceptions!	2 YEARS

\* Labor may have a limit. See your seller for a copy of the limited warranty.

# Aftermarket "Reman" Units Don't Measure Up

When time is money, installing aftermarket FICMs can be risky. Some rebuilders employ the "find and fix" solution, simply re-soldering the most common component failure. Then the FICMs are reboxed and sold as "remanufactured". The OE remanufacturing process provides the specific competitive advantages shown below.



# When time and money count, choose Genuine Motorcraft Remanufactured FICMs



FordParts.com

www.PowerStrokeDiesel.com

**Time** Motorcraft

# **New Lower Cost Repair Options**

Remanufactured 6.0L & 6.4L Long Block Stripped Engines



# Ford 6.0L & 6.4L Diesel Engines Competitively Built and Priced

- All cylinder bores are remanufactured to OEM standard size bores\*
- Cylinder bores are diamond plateau honed to OEM specification designed for reduced oil consumption, optimum performance and power cylinder durability
- All valve guides are replaced with new guides using CNC technology to help provide consistent valve sealing
- 100% new lifters are used on each engine to help prevent premature valvetrain failure
- Every engine is cold tested to help meet OEM specified oil pressure, oil flow, engine clearances, and compression

\*Subject to manufacturing capacity.

# Choose Ford Remanufactured

- OEM design and fit every time
- No-risk core return
- Same or next day delivery available
- Competitive prices
- Nationwide limited-warranty coverage\*

\*See your seller for limited-warranty details.

Service Part Warranty on Genuine Ford and Motorcraft Parts

UNLIMITED MILEAGE INCLUDES LABOR • Two Years/Unlimited Miles\* • Includes Labor\* • No Commercial Exceptions \*Labor may have a limit. See your seller for a copy of the limited warranty.

# Remanufactured 6.0L & 6.4L Long Block Engine Part Numbers and Applications

Model Year	Application	ESN Breaks*	Standard Ford Part #	Studded Ford Part #
6.0L LONG BLOCK	( STRIPPED 6006			
2003-2004	F-250–F-550 Excursion with Auto Trans (Early '04 Prod.)	6,000,000 to 6,155,636 or Excursion 1 to 94,580	JC3Z-6006-AARM	N/A
2004	F-250–F-550 Excursion with Auto Trans (Late Prod.)	6,155,637 to 6,344,942 or Excursion 94,581 and up	JC3Z-6006-BARM	N/A
2005-2006	F-250-F-550 with Auto Trans (Early Prod.)	6,344,943 to 6,723,721 or 131,587 to 299,092	JC3Z-6006-CARM	JC3Z-6006-DARM
2006-2007	F-250-F-550 with Auto Trans (Late '06 Prod.)	6,723,722 and up or 299,093 and up	JC3Z-6006-FARM	JC3Z-6006-GARM
2006-2010	E-Series (Late '06 Prod.)	299,093 and up	JC3Z-6006-EARM	N/A
6.4L LONG BLOCK	( STRIPPED 6006			
2008-2010	F250-F550 with Auto Trans	N/A	KC3Z-6006-ARM	KC3Z-6006-CRM
2008-2010	F250-F550 with Manual Trans	N/A	KC3Z-6006-BRM	KC3Z-6006-DRM

\*Refer to your engine serial number to verify the correct engine replacement part number.

	6.0L Long Block Stripped	6.4L Long Block Stripped		6.0L Long Blo Strippe
	6006	6006		6006
Camshaft	Х	Х	Oil Filter and Base	
Camshaft Bearings	Х	Х	Oil Pan and Pick-Up Tube	X
Connecting Rods	Х	Х	Oil Pump Assembly	X
Crankshaft	Х	Х	Piston Cooling Tubes	X
Cylinder Block	х	Х	Pistons/Rings	X
Cylinder Head Assembly	х	Х	Push Rods	X
Cylinder Head Gaskets	х	Х	Rear Cover	X
Front Cover	х	Х	Rear Seal	X
Front Seal	Х	Х	Rocker Arm Carrier	X
HeaterTube	X		Sensor – EOT Engine Oil Temperature	X
Lifters	X	Х	Timing Components	x
Lifting Eyes	Х	Х	Valves	X
Main/Rod Bearings	X	Х	Vibration Damper	x
Oil Cooler Assembly	Х	Х	Water Pump Assembly	X

#### **Bill of Materials Information**



#### www.PowerStrokeDiesel.com

Find Motorcraft.

6.4L Long Block Stripped X X X X X X X X X X X X X X

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# **New Lower Cost Repair Option**

Remanufactured 6.0L & 6.4L Long Block Stripped Engines

### Ford 6.0L Diesel Engine Competitively Built and Priced

- · State-of-the-art bore spray welding procedure results in standard size cylinder bores in brand new condition\*
- Cylinder bores are diamond plateau honed to OEM specification designed for reduced oil consumption, optimum performance and power cylinder durability
- · All valve guides are replaced with new guides using state-of-the-art CNC technology to help provide consistent valve sealing
- 100% new lifters are used on each engine to help prevent premature valvetrain failure
- Every engine is cold tested to help ensure OEM specified oil pressure, oil flow, engine clearances, and compression

\*Subject to bore spray manufacturing capacity.

## **Choose Ford Remanufactured**

- OEM design and fit every time
- No-risk core return
- Bore spray technology
- Same or next day delivery available
- Competitive prices
- Nationwide limited warranty coverage\*

\*See your seller for limited-warranty details.

	Long Block Stripped
Camshaft	Х
Camshaft Bearings	Х
Connecting Rods	Х
Crankshaft	Х
Cylinder Block	Х
Cylinder Head Assembly	Х
Front Cover	Х
Front Seal	Х
Lifters	Х
Main/Rod Bearings	Х
Oil Cooler Assembly	Х
Oil Pan and Pick-Up Tube	Х
Oil Pump Assembly	Х
Piston Cooling Tubes	Х
Pistons/Rings	Х
Push Rods	Х
Rear Cover	Х
Rear Seal	Х
Rocker Arm Carrier	Х
Sensor – EOT Engine Oil Temperature	Х
Timing Components	Х
Valves	Х
Vibration Damper	Х
Water Pump Assembly	Х

Ford Part #	Model Year	Application	ESN Breaks*						
<b>F-SERIES</b>									
Studded Long Block Stripped									
JC3Z-6006-GARM	2006-2007	F-SERIES W/AUTO TRAN	6,723,722 & up or 299,093 & up						
JC3Z-6006-DARM	2005-2006	F-SERIES W/AUTO TRAN	6,344,943 to 6,723,721 or 131,587 to 299,092						
Long Block Strippe	ed								
JC3Z-6006-FARM	2006-2007	F-SERIES W/AUTO TRAN	6,723,722 & up or 299,093 & up						
JC3Z-6006-CARM	2005-2006	F-SERIES W/AUTO TRAN	6,344,943 то 6,723,721 ок 131,587 то 299,092						
JC3Z-6006-BARM	2004	F-SERIES W/AUTO TRAN	6,155,637 то 6,344,942						
JC3Z-6006-AARM	2003-2004	F-SERIES W/AUTO TRAN	6,000,000 то 6,155,636						
E-SERIES									
Long Block Strippe	ed								
JC3Z-6006-EARM	2006-2010	E-SERIES W/AUTO TRAN	299,093 & up						

\*Refer to your engine serial number to verify the correct engine replacement part number.



**Service Part Warranty on Genuine Ford** and Motorcraft Parts

- Two Years/Unlimited Miles\*
- Includes Labor\*
- · No Commercial Exceptions
- \*Labor may have a limit. See your seller for a copy of the limited warranty.



www.PowerStrokeDiesel.com

Motorcraft Ford

# REMANUFACTURED TRANSMISSION ASSEMBLIES

Make Ford Genuine Parts your first choice for Ford and Lincoln replacement parts!

#### Genuine Ford Remanufactured Transmission Assemblies – the Right Fit!

- · Exceptional guality and value
- Incorporate the latest engineering enhancements
- · No "reverse engineering"
- · Same or next day delivery
- No-risk core return policy 100% core credit
- Each assembly covered by a 36-month/Unlimited Miles Limited Warranty on parts and service (see dealer for details) no commercial exceptions
- Nationwide warranty coverage
- All critical parts replaced contributes to excellent performance and durability

### **Transmission Assembly Features**

- Assemblies feature all-new gaskets and seals
- Ford-approved transmission fluid filled before the assembly leaves the factory to ensure proper fluid is used
- · Make, model, year and emission calibration specific
- · Include sensors (when applicable)

 Same extensive O.E. production end of line testing for:

(Ford)

FORD PARTS

- Hydraulic pressure
- Proper shift times and points
- Torque converter stall speed
- Torque converter lock-up points

# **GENUINE FORD** Transmission





#### HOW AN AUTOMATIC TRANSMISSION WORKS:

- A torque converter harnesses and transmits the engine's rotary motion
- A hydraulic pump moves transmission fluid to the clutches and main control
- Rotary power is transferred to internal shafts and gearing
- Gearing and clutch application determines the correct combination of speed and power output to the wheels
- Rotary motion is transmitted through the differential to the drive wheels

#### **Possible Symptoms:**

- One or more gear ranges do not work (A, B, C, D, E, F)
- The engine must be revved higher than normal to make the vehicle move (A, B, C, D, E, F)
- Vehicle driveability is jerky or erratic (A, B, D, E, F)
- A burnt odor is detected (B, E)
  - Excessive noise (A, C, D)

## TRANSMISSION ASSEMBLY



## 3-Year Unlimited Mileage Warranty

- All Ford-designed and approved parts
- Assembled using precision assembly fixtures
- Latest parts updates and revisions from Ford engineering
- Commercial use-approved with full warranty
- The correct replacement for your vehicle
- Final testing and standards identical to new Ford production transmissions

performance and fuel economy

© Ford Motor Company

# GET EVERYTHING YOU'RE PAYING FOR AT A COMPETITIVE PRICE

with a GENUINE Ford Remanufactured Transmission





### **Torque Converter**

A hydraulic coupling that transmits engine power to the transmission.

- Remanufactured using premium components
- Disassembled and all parts cleaned and inspected
- Assembled using only Ford-designed and approved parts and processes
- Balanced using the same methods as new production units

# B

### **Fluid and Filter**

Provides clean lubrication, cools components, inhibits rust and optimizes "shift feel" across the normal operating temperature range

 Ford-specified, Ford-designed fluid and filter used on every unit



## Planetary Gearsets

Transfer power from the torque converter to the wheels at different speeds to provide a full range of gear options

 Cleaned and inspected for wear, damage or noise and replaced when necessary



### Pump

Pressurizes fluid to actuate clutches, lubricate parts and move fluid through the cooler

 Cleaned, inspected and reassembled using Forddesigned, Ford-approved parts and processes

# B

### **Clutches and Friction Material**

Activated by fluid pressure to transmit power to the gearset elements and to provide smooth transitions between gear ranges

- Disassembled and parts cleaned and inspected
- Friction material and seals inspected for wear and replaced as needed with Ford-designed and approved parts
- Assembled using state of the art equipment to ensure proper clutch clearance



# Main Control and Transmission

**Control Unit ("Brains"; not pictured)** Interacts with vehicle computer to determine correct transmission shift speeds and timing

- Disassembled and parts cleaned and inspected
- Solenoid valves electronically tested to ensure full-range function
- Assembled using only Ford-designed, Ford-approved parts and processes

# GENUINEQUALITY MAKES THE DIFFERENCE. 3-YEAR Unlimited Mileage Warranty

# Compare Your Transmission Repair Options:

There are a number of transmission repair options available to you, but none offer the quality and peace of mind that Ford Remanufactured transmissions do. For starters, we use only the most up-to-date Original Equipment parts and offer an unsurpassed three-year, unlimitedmileage warranty. You can be certain that they're engineered and built tough enough for demanding commercial use. Check out what makes us your best choice.





FORD **PARTS** 



	USED TRANSMISSION	GENUINE FORD REMANUFACTURED TRANSMISSION				
Warranty						
Terms	Varies	3-Year/ Unlimited Mileage				
Nationwide Coverage	NO	YES				
Parts Replaced						
Meet OE Specifications?	?	YES				
Torque Converter	?	YES				
Frictions, Steels and Bands	?	YES				
Gaskets, Seals & Solenoids	?	YES				
Specifications						
Original Equipment	?	YES				
Final Testing	NO	YES				
OE Requirements	?	YES				
Computer Diagnostics	NO	YES				

# **OEM Parts & Specs at Competitive Prices**



FORD PARTS

# **AUTOMATIC TRANSMISSION TIPS & CHECKLIST**

To perform the task of removing and installing an automatic transmission, you should be certified in automotive transmission replacement.

#### **REMOVAL AND INSTALLATION**

Review all prior warranty history of the vehicle.

- Review all Technical Service Bulletins and Special Service Messages pertaining to the vehicle and transmission being serviced.
- □ Verify that the replacement unit is the correct unit for the vehicle.
- Use appropriate Workshop Manual for exact procedures and specifications required to remove and replace the transmission assembly.

#### INSTALLATION TIPS

- Prior to installation, lightly lubricate the torque converter pilot that fits into the engine crankcase bore with multipurpose grease specification ESB-M1C93-B or equivalent.
- Ensure engine to transmission dowel pins are in place.
- Properly flush cooler and cooler lines. Refer to appropriate workshop manual for complete flushing procedures. See page P-10 to identify cooler return line. Flush system using Rotunda tool 222-00007 (or equivalent) with a Ford approved transmission fluid as the flush agent. The Rotunda flushing unit is highly recommended as it has a flow meter, maintains fluid at 140 degrees F, pulsates during cleaning, and air purges before and after flushing, which is crucial for maximum effectiveness. Any substitute flushing tool must have these features to ensure success.

**NOTE:** Some coolers and/or bypass valves cannot be flushed. These units must be replaced.

The replacement transmission has some fluid in it. (Rear wheel drive transmissions are full filled. Front wheel drive transmissions are partially filled). For complete fluid checking procedures, refer to the appropriate workshop manual.

NOTE: If required, use fluid type identified on the tag attached to the remanufactured transmission. Do not overfill transmission.

**NOTE:** Some transmissions require use of a scan tool to verify fluid temperature is in proper range when checking fluid level.

#### INSTALLATION TIPS (CONT'D)

- □ Check and adjust transmission shift linkage as outlined in the appropriate Workshop Manual. Adjustment must be done in drive position.
- □ Inspect transmission wiring harness and connectors for any damaged areas and correct routing. Ensure that the harness connector has no damaged pins or seal also check for cracks or corrosion.
- Most transmissions require that the solenoid strategy be updated in the Powertrain Control Module (PCM). Verify that the PCM is programmed to the latest level. Use appropriate Workshop Manual for proper procedure.
- □ Follow the workshop manual "Transmission Adaptive Learn and Drive " procedure after installation.
- Correct any drivability concerns and/or codes during course of repair. Engine performance issues can adversely affect transmission operation.

#### **CORE SHIPPING GUIDELINES**

- Use the shipping container that the replacement transmission was shipped in to return the failed transmission.
- □ Fully drain the fluid from the transmission pan and torque converter.
- Ensure that all components to be transferred have been removed from the failed transmission and installed on the replacement transmission.

Uverify that no dowel pins are on the failed transmission.

- □ Transfer all shipping caps and plugs from the replacement transmission to the failed transmission.
- Ensure the retuned failed transmission is completely reassembled.
- □ Install the torque converter shipping strap.

# TRANSMISSION OIL COOLERS & TUBES

FORD PARTS

ප්ලධානත්තුවාද කර්ගත්තාගත

construction

Make Ford Genuine Parts your first choice for Ford and Lincoln replacement parts!

# Attention To Detail

- Sized to meet Cold Flow requirements helps prevent overheating in cold conditions
- Aluminum fins meet rigorous Ford corrosion specifications
- Long-life aluminum alloys
- Lightweight aluminum construction

### **Robust Design**

- Optimum cooling capacity and performance for uphill towing
- Tough tested through a wide range of pressure and thermal cycles
- Designed for optimal heat dissipation

## **Easy Installation**

- Vehicle-specific designs
- Robust brackets for secure mounting
- No fabrication required

## **Oil Cooler Tubes**

- Vehicle specific designs
- Correct fittings minimize connections and leaks
- Routed correctly to eliminate NVH

### 24-months/Unlimited Mileage Service Part Warranty

- 24-months / unlimited mileage limited warranty, which includes parts and labor costs, and is supported nationwide by Ford and Lincoln dealers and Ford Authorized Distributors (See seller for limited warranty details)
- Designed to meet stringent Ford engineering standards for performance and durability
- Recommended for all Ford, Lincoln and Mercury vehicles



Brackets designed for easy instaliation and scenre mounting

# **Transmission Cooler Service Guide**

							Wheel Ismission C			es								$\neg$
						Trail	131111331011 0			lodel Year								
Transmissio	n Family/ Vehicle Line	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
7E	Focus	F	F	F	F	F	F	F	F	F	F	F	F					
4F27E	Transit Connect											F	F	F	F			
	Freestar					F	F	F	F	F								
N (Å	Sable	F	F	F	F	F	F											
4F50N (AX4N)	<u>Taurus</u>	F	F	F	F	F	F	F	F									
-	Windstar		F	F	F													
	Edge/MKX													F	F	F	F	F
	Escape										F	F	F	F	F	F	F	F
	Explorer													F	F	F	F	F
	Fusion/MKZ										F	F	F	F	F	F	•	F
	<u>Mariner</u> <u>Milan</u>										F	F	F					
6F35	МКС																F	F
65	MKT														F	F	F	F
	Police Interceptor- Sedan														F	F	F	F
	Police Interceptor- Utility														F	F	F	F
	Taurus														F	F	F	F
	Transit Connect															F	F	F
	Edge/MKX								F	F	F	F	F	F	F	F	F	F
	Explorer												F	F	F	F	F	F
	Flex										F	F	F	F	F	F	F	F
	MKS										F	F	F	F	F	F	F	F
i0	MKT											F	F	F	F	F	F	F
5/0	MKZ Police Interceptor-						-						-		F	F	F	F
6F50/55	Sedan														F	F	F	F
	Police Interceptor-														F	F	F	F
	Utility																	
	Sable Taurus									F	F	F	F	F	F	F	F	F
	Taurus X									F	F	F	F	F	F	F	r	F
Ś	Sable/Taurus	F	F	F	F													
AX4S	Windstar	F		•														
	Cougar	F	F	F	F													
CD4E	Escape	•	F*	F*	F*	F*	F*	F*	F*	F*								
Ū	Mariner						F*	F*	F*	F*								
счт	Five Hundred/ Freestyle/Montego						R	R	R									
Aisin AW21/ F21	Five Hundred/ Freestyle/Montego						R	R	R									
/12	Fusion							F	F	F	F	F	F	F				
N N	Milan							F	F	F	F	F	F					
in ,	MKZ								F	F	F	F	F	F				
Ais	Zephyr							F										
	Fusion							F	F	F	F							
FNR5	Milan							F	F	F	F							
É	MKZ							F	F	F	F							
L	Zephyr							F										
ŝ	<u>C-MAX Hybrid/</u> Energi														F	F	F	F
HF35	Fusion Hybrid														F	F	F	F
	MKZ Hybrid														F	F	F	F

<u>Legend:</u> F	Flush cooler using Transmission Heated Cooler Line Flusher 222-00007, 222-00004 or equivalent during transmission overhaul or replacement. If the Transmission Heated Cooler Line Flusher or equivalent is not available, install a new transmission fluid cooler and/or an auxiliary transmission fluid cooler
F*	The Cold Weather Bypass Valve (if equipped) cannot be flushed and should be replaced during cooler system service. If the valve is not currently installed, it should be retroactively added after cooler system service. Flush the cooling system using the Transmission Heated Cooler Line Flusher 222-00007, 222-00004 or equivalent during transmission overhaul or replacement. If the Transmission Heated Cooler Line Flusher 222-00007, an auxiliary transmission fluid cooler Transmission fluid cooler and/or an auxiliary transmission fluid cooler
R	Replace cooler during transmission overhaul or replacement
NOTE:	Some vehicles may be equipped with an optional Towing Package transmission cooler. This optional cooler (if equipped) should be replaced during transmission overhaul or replacement

# **Transmission Cooler Service Guide**

								/heel Dr			ns							
							114			Vehicle Moo	lel Year							
Transmissio	n Family/ Vehicle Line	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	Blackwood			R (OTA)	R (OTA)													
	<u>E-150</u>	F	F	F	F	F												
	E-250/350/450	F	F	F	F	F												
4R100	Excursion	R (OTA)	R (OTA)	R (OTA)	R (OTA)	R (OTA)	R (OTA)											
4R.	Expedition/	F	F	F	F	F												
	Navigator																	
	<u>F-150</u>	F	F	F	F	F												
	F-250/350/450	R (OTA)	R (OTA)	R (OTA)	R (OTA)	R (OTA)												
4	Explorer/ Mountaineer	R	R															
55 R4	Explorer Sport		R	R	R													
4R44/5R44/ 5R55	Explorer Sport-Trac		R	R	R	R	R											
4K	Ranger	R	R	R	R	R	R	R	F	F	F	F	F					
	Crown Victoria/	R	R	R	R	R	R	R	R	R	R	R	R					
	Grand Marguis																	
	E-150	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F		
	E-250/350/450	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F		
	Expedition Explorer	F	F	F	F	F	F	F										
4R70/75	F-150	F	F	F	F	F	F	F	F	F								
R70	Marauder				R	R												
4	Mountaineer	F	F															
	Mustang	F	F	F	F	F												
	Navigator	F	F	F	F	F	F	F				-	-					
	Town Car	R	R	R	R	R	R	R	R	R	R	R	R	- ()*	- ()*	- (	- ()*	
	<u>E-150</u> E-250/350/450					R (OTA)* R (OTA)*	R (OTA)* R (OTA)*	R (OTA)*	R (OTA)* R (OTA)*	R (OTA)								
5R110	Excursion					R (OTA)*	R (OTA)*	K (UTA)	R (UTA)	R (UTA)	R (UTA)	K (UTA)	K (UTA)	K (UTA)	K (UTA)	R (UTA)	K (UTA)	K (UTA)
58	F Series SuperDuty				R (OTA)*	R (OTA)*	R (OTA)*	R (OTA)*	R (OTA)*	R (OTA)*	R (OTA)*	R (OTA)*	R (OTA)*	R (OTA)*	R (OTA)*	R (OTA)*	R (OTA)*	R (OTA)
	Low Cab Forward								R (OTA)*		R (OTA)*	. ,						
	Aviator				R	R	R											
ı/s	Explorer/			R	R	R	R	R	F	F	F	F						
5R55N/W/S	Mountaineer Explorer Sport-Trac								F	F	F	F						
(551	Mustang						R	R	R	R	R	F						
5	Lincoln LS	F	F	F	R	R	R	R										
	Thunderbird			F	R	R	R											
6HP26	Expedition/ Navigator						R	R	R	R								
6R140	F-250/350/450												R (OTAG)	R (OTAG				
68	<u>E-350/450</u>																	F
	Expedition/ Navigator								R	R	F	F	F	F	F	F	F	F
/80	Explorer/							R	R	R	F	F		_				
6R60/75/80	Mountaineer								R	R	F	F						
360,	Explorer Sport-Trac F-150								ĸ	π	F	F	F	F	F	F	F	F
<b>6</b> F	Mustang											•	F	F	F	F	F	F
	Transit																F	F

	Flush cooler using Transmission Heated Cooler Line Flusher 222-00007, 222-00004 or equivalent during transmission overhaul or replacement. If the Transmission Heated Cooler Line Flusher or equivalent is not available, install a new transmission fluid cooler and/or an auxiliary transmission fluid cooler.
R	Replace cooler during transmission overhaul or replacement
R (OTA)	Replace Oil-To-Air cooler (if equipped) during transmission overhaul or replacement
R (OTA)*	Flush cooling system during transmission overhaul or new unit install. Replace OTA when flushing does not adequately clean
R (OTAG)	Replace Oil-To-Air cooler (if equipped) during transmission overhaul or replacement- Gasoline engine vehicles only
NOTE:	Some vehicles may be equipped with an optional Towing Package transmission cooler. This optional cooler (if equipped) should be replaced during transmission overhaul or replacement



### TRANSMISSION COOLER SERVICE

- Most F-Super Duty vehicles have radiator in-tank fluid coolers. This type of cooler will require flushing.
   If flushing does not adequately clean the cooler, replacement is required. Always refer to the vehicle service publications.
- TorqShift transmission cooling system flushing procedure is unique. Refer to the vehicle workshop manual before performing this procedure.
- Replacement procedures for Oil-To-Air (OTA) and Auxiliary coolers vary based on year and model of the vehicle.



- Different types of OTA coolers are required for gasoline and diesel applications.
  - OTA Cooler with threaded cooler line connections
  - OTA Cooler with crossover tube and hose clamp connections

**Note:** Cooler application may change due to a mid-year production changeover. Always replace the OTA cooler with a cooler of the same size and cooler line connection type (threaded or hose clamp).

When any of the following vehicles with OTA transmission coolers require major transmission service the OTA cooler must be replaced.

Note: Always verify the correct part numbers before ordering replacement parts.

#### 1999 - 2014 F-Series F-150

- 2009 2014 Part # DL3Z-7A095-A (4 ch 1/2 " line hose clamp connection)
- 2004 2008 Part # 6L3Z-7A095-A (4 ch 1/2 " line quick connection)
- · 2004 2008 Part # 6L3Z-7A095-B (9 ch 1/2" line quick connection)
- · 2000 2003 Part # 4L1Z-7A095-BB (11 ch (trailer tow) 3/8" line quick connection)
- · 2000 2003 Part # 5L3Z-7A095-G (4R100 7 ch 3/8" line quick connection)
- 2000 2003 Part # 5L3Z-7A095-H (4R70W 7 ch 3/8" line quick connection)
- · 1999 Part # XL3Z-7A095-EA (4R1007ch inverted nut fittings)

#### 1999 - 2016 F-Series Super Duty 250 - 550

- · 2008 2010 6.4L Diesel Engine, 5R Transmission Part # 7C3Z-7A095-B (hose clamp 1/2" line connection)
- · 2003 2007 6.0L Diesel Engine, 5R Transmission Part # 5C3Z-7A095-CA (hose clamp 1/2" line connection)
- · 2001 2003 7.3L Diesel Engine, 4R Transmission **Part # 3C3Z-7A095-AA** (hose clamp 3/8" line connection)
- · 1999 2001 7.3L Diesel Engine, 4R Transmission Part # XC3Z-7A095-BA (threaded line connector)
- 2011 2016 6.2L Gas Engine, 6R Transmission Part # 9C3Z-7A095-A (hose clamp 1/2" line connection)
- 2008 2016 6.8L Gas Engine, 5R Transmission Part # 9C37-7A095-A (hose clamp 1/2" line connection)
- · 2005 2007 6.8L Gas Engine, 5R Transmission Part # 5C3Z-7A095-CA (hose clamp 1/2" line connection)
- · 2017 6.2L Gas Engine, 6R Transmission Part # HC3Z-7A095-A (hose clamp 1/2" line connection)



- A wide selection is available to cover most popular Ford Motor Company applications
- Designed to help get the job done right the first time, every time
- 24-months / Unlimited Mileage Limited Warranty, which includes parts and labor costs, and is supported nationwide by Ford and Lincoln dealers and Ford Authorized Distributors (See seller for limited warranty details)
- O.E. improvements are integrated into the remanufacturing process to meet the highest Ford standards of quality and durability

- All components cleaned and re-qualified in a TS16949 certified factory
- Each Assembly feature:
  - Upgrade stator in 5R110
  - Triple plate damper assemblies
  - Upgraded impeller
  - Diesel applications get stronger impeller blades
  - Original equipment ATF
  - O.E. Replacement Parts
  - Unpainted bodies





# Three Levels of Overhaul Kits are Available for Flexibility

Each kit contains quality parts that meet stringent Ford Motor Company standards

- · Customized for your Ford, Lincoln or Mercury vehicle
- O.E. friction surface is designed for vehicle specific fluid and calibration
- Seals are designed for leak prevention and less corrosion

#### Motorcraft<sup>®</sup> Master Overhaul Kit includes everything in the Motorcraft<sup>®</sup> Overhaul Gasket & Seal Kit plus:

- Steel plates
- Bands (where applicable)
- O.E. friction plates
- Available for the full line of Ford Motor Company vehicles

#### Motorcraft® Overhaul Gasket & Seal Kit includes:

- · Bonded pistons and Valve body gaskets (where applicable)
- Soft and Metal-clad seals
- · Ring kit (where applicable)
- · Available for the full line of Ford Motor Company vehicles

#### Motorcraft<sup>®</sup> Master Overhaul Less Steel Kit contains O.E. friction plates but excludes steel plates

Not available for all applications





Motorcraft

- 24-months / unlimited mileage limited warranty, which includes parts and labor costs, and is supported nationwide by Ford and Lincoln dealers and Ford Authorized Distributors (See seller for limited warranty details)
- Designed to meet stringent Ford engineering standards for performance and durability
- Recommended for all Ford, Lincoln and Mercury vehicles

# **Motorcraft® Transmission Overhaul Kits**



Motorcraft<sup>®</sup> Master Overhaul and Master Overhaul Less Steel kits contain 100% original equipment friction material for added strength and durability.

	Overh	naul Kit						
	М	aster Overha	ul Less Ste	el Kit				
Transmission	Bonded Pistons	Valve Body Gaskets	Soft Seals	Metal Clad Seals	Ring Kit	Friction Plates	Steel Plates	Bands
C6		x	x	x	X	X	X	
AOD		X	x	X	X	Х	X	
ATX		X	x	X	X	Х	X	
A4LD		X	x	X	X	Х	X	
AXOD		X	x	X	X	Х	X	
E40D		X	x	x	X	X	X	
4R100		X	x	X	X	Х	X	
AXODE		X	x	X	X	Х	X	
AX4S		X	x	X	X	Х	X	
4R70E/4R70W			x	x	X	X	X	
4R75E/4R75W			x	x	X	X	X	
CD4E	х	X	x	x	X	X	X	
5R55N			x	x	X	X	X	
5R55W			x	x	X	X	X	х
AX4N	х	X	x	x	X	X	X	
4R44E/4R55E		X	x	x	X	X	X	
5R44E/5R55E		X	x	x	X	X	X	
4F27E	х	X	x	x	X	X	X	
5R110W	Х		x	x	X	X	X	
5R55S			x	x	x	x	x	х
4F50N <sup>1</sup>	х	x	x	x	x	x	x	
6R60/6R75/6R80 <sup>2</sup>			x	x	x	x	x	
CVT30 <sup>3</sup>			x	x	x			
6F35/6F50/6F55 <sup>2</sup>	х	x	x	x		x	x	
6R140 <sup>2</sup>	х	x	x	х	x	x	x	Ì

Soft Seals: Metal Clad Seals: Ring Kit: O-Rings. lip and lathe cut seals, D-Rings, plus all paper gaskets except valve body gasket. Converter, pump, axle (FWD) and extension housing seals. Metal and PTFE rings.

<sup>1</sup>Less Steel Kit also available

<sup>2</sup> No Less Steel Kit available

<sup>3</sup> No Less Steel Kit or Master Overhaul Kit available

# **CLUTCH KITS**

Make Ford Genuine Parts your first choice for Ford and Lincoln replacement parts!

dight & septrased elbean agro.)

framparafure grosse

# **High Quality Designs**

· Designed specifically for each vehicle

### **Attention To Detail**

- Clutch springs tuned to minimize gear rattle
- Friction surface uses deep-set rivets for long life
- Friction material have optimum copper content for better durability
- Pressure plates have optimum mass to operate cooler and are more durable
- Beefy pressure plate "ears" designed to better transmit engine torque
- Pilot bearings use large needle roller bearings to better transmit radial loads
- High temperature grease used in critical pilot bearings for optimal durability

### Less Down Time

- All components designed for long life and improved durability
- Better durability means less down time
- Less down time means less lost revenue for fleets and commercial owners

## 24-months/Unlimited Mileage Service Part Warranty

- 24-months / unlimited mileage limited warranty, which includes parts and labor costs, and is supported nationwide by Ford and Lincoln dealers and Ford Authorized Distributors (See seller for limited warranty details)
- Designed to meet stringent Ford engineering standards for performance and durability
- Key life durability tested to the equivalent of 10 years/150,000 miles lifetime
- Recommended for all Ford, Lincoln and Mercury vehicles



Large triefton surface ambadded with copper

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Springs tuned to alidinity geer relifie

# Motorcraft<sup>®</sup> Catalogs

The catalogs listed here have been designed and produced to assist you in identifying Motorcraft<sup>®</sup> parts by individual product line.

- Air Conditioner Parts-AC 200
- Batteries-BD 200
- Belts, Hoses & Tensioners-GSR 200
- Brake & Wheel Hub Products-PV 200
- Caps, Thermostats & Water Pumps-CW 200
- Rotating Electrical, Ignition Components, Wire & Cable-EWC 200
- Electrical Switches-SP 251
- Filters-FI 200
- Fuel & Emission Systems-FES 200
- Lubricants & Chemicals-OIL 3051
- Popular Parts-APF 200
- Powertrain Components & Remanufactured Assemblies-PTF 200
- Spark Plugs-M 200
- Steering, Suspension & CV Products-SSD 200
- Windshield Wiper Blades-WW 200
- Wiring Pigtail Kits-WPT 200





# 3-year/unlimited-mile warranty\*on long block gas engines and all transmissions.

For purchase location, part number applications, technical assistance and warranty information, please call 1-800-392-7946 or visit FordParts.com.



