

**SUPPLEMENTAL PARTS INFORMATION
(SPI)**

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May 17, 1954

SUBJECT: TORQMATIC CONVERTERS - ALL 200 SERIES
MODELS. SERVICE REPLACEMENT STATOR
THRUST WASHERS OF CERTAIN EARLY
PRODUCTION UNITS.

REFERENCE: Transmission Engineering Memorandum,
Serial No. 434 A-B, dated April 12, 1954.

In order to improve the wear characteristics of the stator
thrust washers where high torque multiplication for long periods
is involved, improved thrust washers have been incorporated
on the 200 Series Torqmatic Converters.

All 200 Series Torqmatic Converters, S/N 4803 and below,
except 4768, should have both thrust washers replaced in the
event disassembly should be required for any reason.

Parts Involved:

<u>Name</u>	<u>Old Part No.</u>	<u>New Part No.</u>
Washer, Rear Thrust	CEX-7990	6756233
Washer, Pump Thrust	3709044	6756629

The following unit serial numbers are affected by this change:

4600	4691	4779	4790
4601	4714	4780	4791
4602	4721	4781	4792
4625	4725	4782	4799
4668	4776	4783	4800
4669	4777	4788	4801
4672	4778	4789	4802
			4803

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August 9, 1954

SUBJECT: TORQMATIC CONVERTER - TC-200 & 300 SERIES -
HYDRAULIC CIRCUITS AND OPERATING PRESSURES.

There are three (3) types of approved hydraulic circuits that are recommended for the subject converters.

1. Integral Heat Exchanger with or without the Integral By-Pass Valve (See S. P. I. No. 175 for Information on Integral By-Pass Valve).

The integral heat exchanger is approved for all applications and will maintain pressures within required limitations. Use of an integral heat exchanger requires use of an orifice in the converter "in" (see sketch) line. Orifice P/N 6756658 with a 7/32" diameter hole, is used with all TC-200 Series Converters. Orifice P/N 6756659 with a 5/16" diameter hole, is used with all TC-300 Series Converters. See sketch for correct flow of water through heat exchanger.

2. Remote Heat Exchanger and External By-Pass Valve (Units below Serial No. 8073).

The remote heat exchanger circuit must have a minimum oil line size of 5/8" I. D., and must have an approved * pressure by-pass valve set for initial opening at 55 plus-minus 5 psi, mounted at the converter oil "out" connection (see below for exceptions) and piped to discharge into the converter oil "in" line. This is for the purpose of controlling converter charging pressure during cold weather starts. This is necessary in order to prevent excessive converter pressure when starting at low ambient temperatures, which could damage the converter.

Exception to location of pressure relief valve

On Detroit Diesel Engine applications, due to peculiarities in the installation, it has been necessary to locate the by-pass valve at the cooler instead of at the converter. The relocation of the by-pass valve in this case has been approved by Allison.

On other installations, if remote mounting of the by-pass valve is necessary, the installation must first be approved by Allison.

3. Remote Heat Exchange and Integral By-pass Valve (Units above Serial No. 8073 see S. I. L. No. 175).

The remote heat exchanger circuit must have a minimum oil line size of 5/8" I. D. in addition to satisfying the cooling requirements for the particular installation. The heat exchanger must have a pressure drop that is compatible with the pressure requirements at stall. In these units the integral by-pass valve will properly control the pressure throughout the remainder of the operating range.

Pressure Limitation on TC-200 & 300 Series Converters.

1. The following oil "out" pressures must be provided at 225 degrees F. oil temperatures:

TC-200

Minimum at full throttle stall	15 psi
Maximum at full throttle stall	30 psi
Maximum at full throttle no load	60 psi

TC-300

Minimum at full throttle stall	25 psi
Maximum at full throttle stall	35 psi
Maximum at full throttle no load	60 psi

2. The following methods should be used to attain the required pressure limitations:

- 2.1 Pressure at Stall too High

If the converter pressure at stall is too high, the pressure drop in the cooler circuit must be reduced. If an increase in oil line size does not reduce the pressure to the required limits, then a heat exchanger with less restriction must be used.

- 2.2 Pressure at Stall too Low

If the converter pressure at stall is too low, the pressure drop in the cooler circuit must be increased. The simplest way to do this is to install an orifice of the proper size to provide the minimum pressure shown above.

4. Oil recommendations for units incorporating the integral by-pass valve (units Serial No. 8073 and above).

-10° F and higher:

Hydraulic transmission fluid type C where available, otherwise
SAE 10 heavy duty (MIL-L-2104).

-10° F and lower:

Hydraulic transmission fluid type C where available, otherwise
SAE 10 heavy-duty (MIL-L-2104).

5. Oil recommendations for units using the external by-pass valve (units below Serial No. 8073).

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+10° F and higher:

Hydraulic transmission fluid type C where available, otherwise
 SAE 10 heavy duty (MIL-L-2104).

+ 10° F and lower:

A mineral base oil meeting the following specifications:

Viscosity at 100° F	55-65 SSU
Viscosity at 210° F	35-38 SSU
Pour Point	-30° F
Flash Point	300° F Min.
Copper Strip Test	Negative
ASTM#D 130	
Cabinet Humidity Test	Corrosion around edge
(Anti-rust and anti-corrosion)	of panel only
L-4 Test	Pass
Foam Test	Pass

At temperatures below the pour point of the special light weight oils,
 auxiliary heat must be applied to raise the oil temperature to its pour
 point.

The following oils are represented by the respective suppliers as meeting the above
 specification. Responsibility for the quality of a lubricating oil and its performance
 in service must remain with the oil company marketing the lubricant. This list
 should, therefore, not be construed as a recommendation of the products by the
 Allison Division of General Motors.

<u>Brand</u>	<u>Type</u>
Esso	Torque Fluid 35
Texas Co.	Texaco Torque Fluid
Cities Service	Torque Fluid #4
Socony-Vacuum	Mobile Fluid #62
Standard Oil of Calif.	RPM Torque Fluid #3
Standard Oil	Stanotorque Conv. Fluid

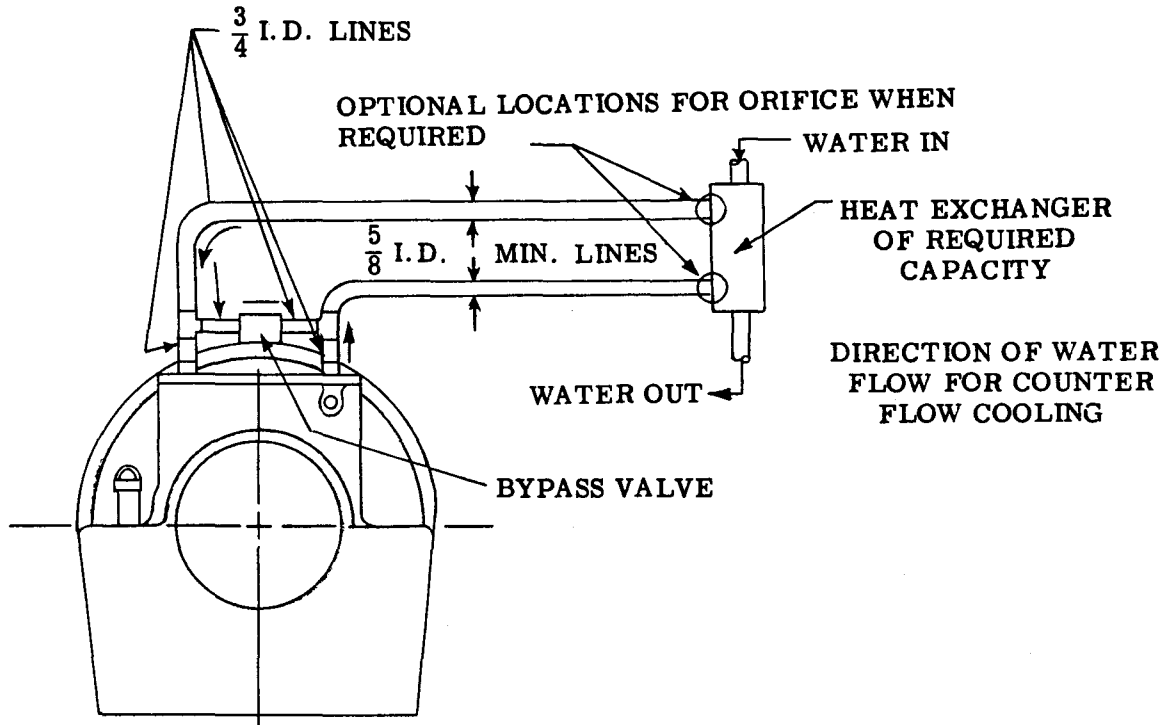
Since new products are continuously being tested by the oil industry, the
 listing may not contain all products marketed at the time of issue. Revised
 lists will be made available from time to time, as additional information is
 developed.

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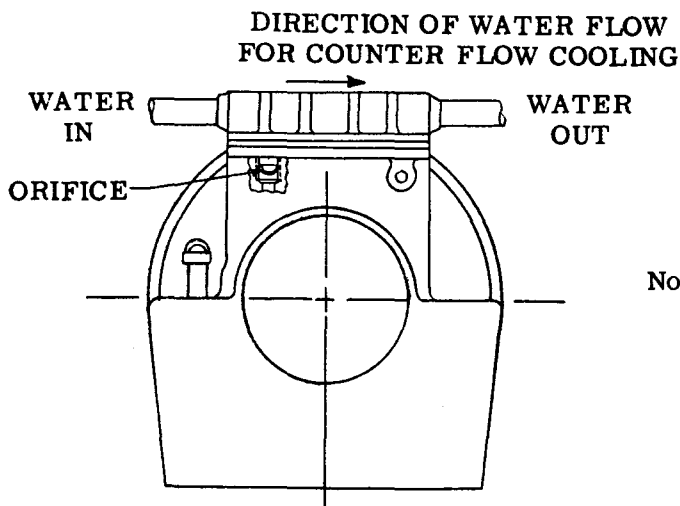
TC 200-300 SERIES CONVERTER
HYDRAULIC CIRCUIT RECOMMENDATIONS

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REMOTE HEAT EXCHANGER



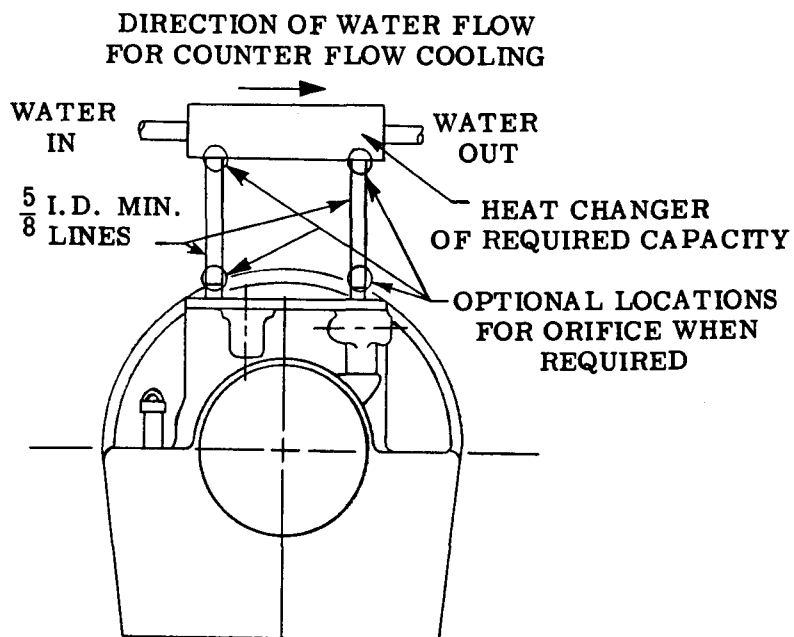
INTEGRAL HEAT EXCHANGER



Note:
Cooler Oil Circuit
Contained in Unit

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REMOTE HEAT EXCHANGER
WITH INTEGRAL
BYPASS VALVE



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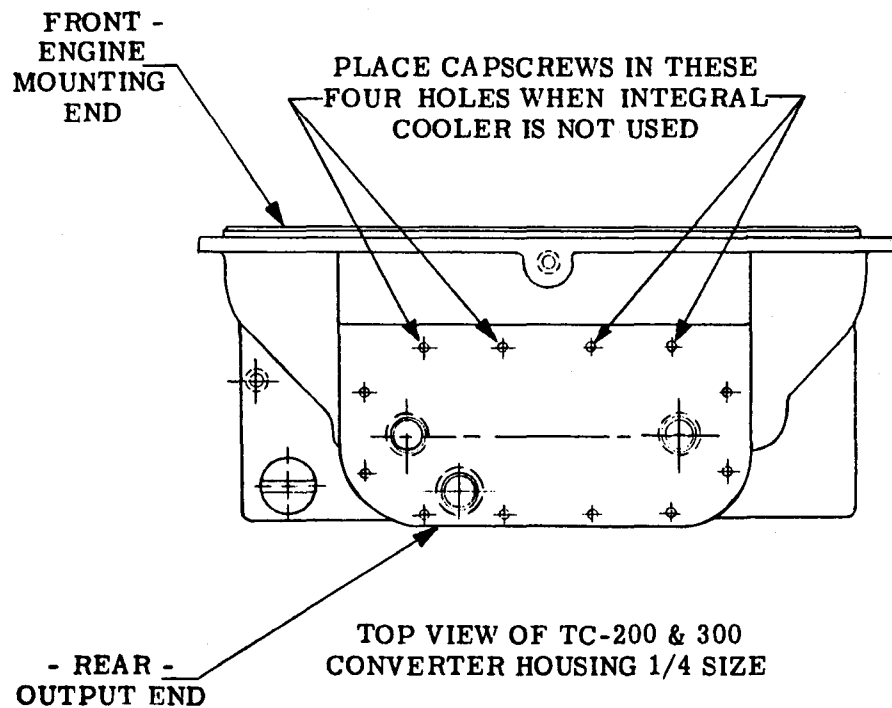
SUBJECT: TORQMATIC CONVERTER - TC-200 & 300 SERIES -
ALL MODELS NOT USING THE INTEGRAL OIL
COOLER - INSTALLING CAP SCREWS IN CONVERTER
HOUSING COOLER MOUNTING HOLES WHEN COOLER
IS NOT USED.

There are twelve (12) drilled and tapped cooler mounting holes located in the cooler mounting pad at the top of the converter housing. The four (4) holes located at the front (engine mounting end) of the cooler mounting pad are through holes into the bell housing of the converter housing. When the integral oil cooler is not used, these four (4) holes (see sketch) are open to the elements and it is possible for rain, dust and debris to work down through the holes and into the converter bell housing.

It is recommended that on all units not using the integral cooler, four (4) 5/16"-18 x 1" UNC bolts be installed in the holes in order to prevent the passage of foreign material into the converter bell housing.

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June 5, 1956

SUBJECT: TORQMATIC CONVERTER - TC-300 SERIES - CONVERTER COVER
CHANGED TO INCORPORATE BALL BEARING P/N 903208 INSTEAD
OF BUSHING P/N 6754922.

In order to provide a better pilot for the turbine assembly, and thereby increase the life of the converter parts, a ball bearing has been added to the converter cover, replacing the bushing. The turbine hub was changed in order to adapt the hub to the new roller bearing. The new roller bearing eliminates the necessity of the turbine thrust washer.

Effective with TC-300 Series Torqmatic Converter Serial No. 13596, the following parts were released or cancelled as noted:

<u>Parts Released</u>	<u>Part Name</u>	<u>Parts Cancelled</u>	<u>Model Used On</u>	<u>Quantity Per Unit</u>
903208	Bearing - Ball		TC-300	1
	Bushing - Conv. Pump Cover	6754922	TC-300	1
	Washer - Turbine Thrust	6755004	TC-300	1
	Cover Assem. - Conv. Pump	6755325*	TC-300	1
6757712*	Cover - Conv. Pump	6755317*	TC-300	1
6758274**	Cover - Conv. Pump	6757255**	TC-300	1
6757713	Turbine Assembly	6755467	TC-300	1

NOTE: Cover assemblies 6755325 and 6757289 which included the bushing 6754922 have been replaced by covers 6757712 and 6758274. The new covers do not include a bushing or bearing, therefore, they are not considered assemblies.

Interchangeability is affected by this change in that new and old part must not be intermixed in a unit. Therefore, a supply of service parts will be maintained on the following parts:

* For engine mounted units only.

** For remote mounted units only.

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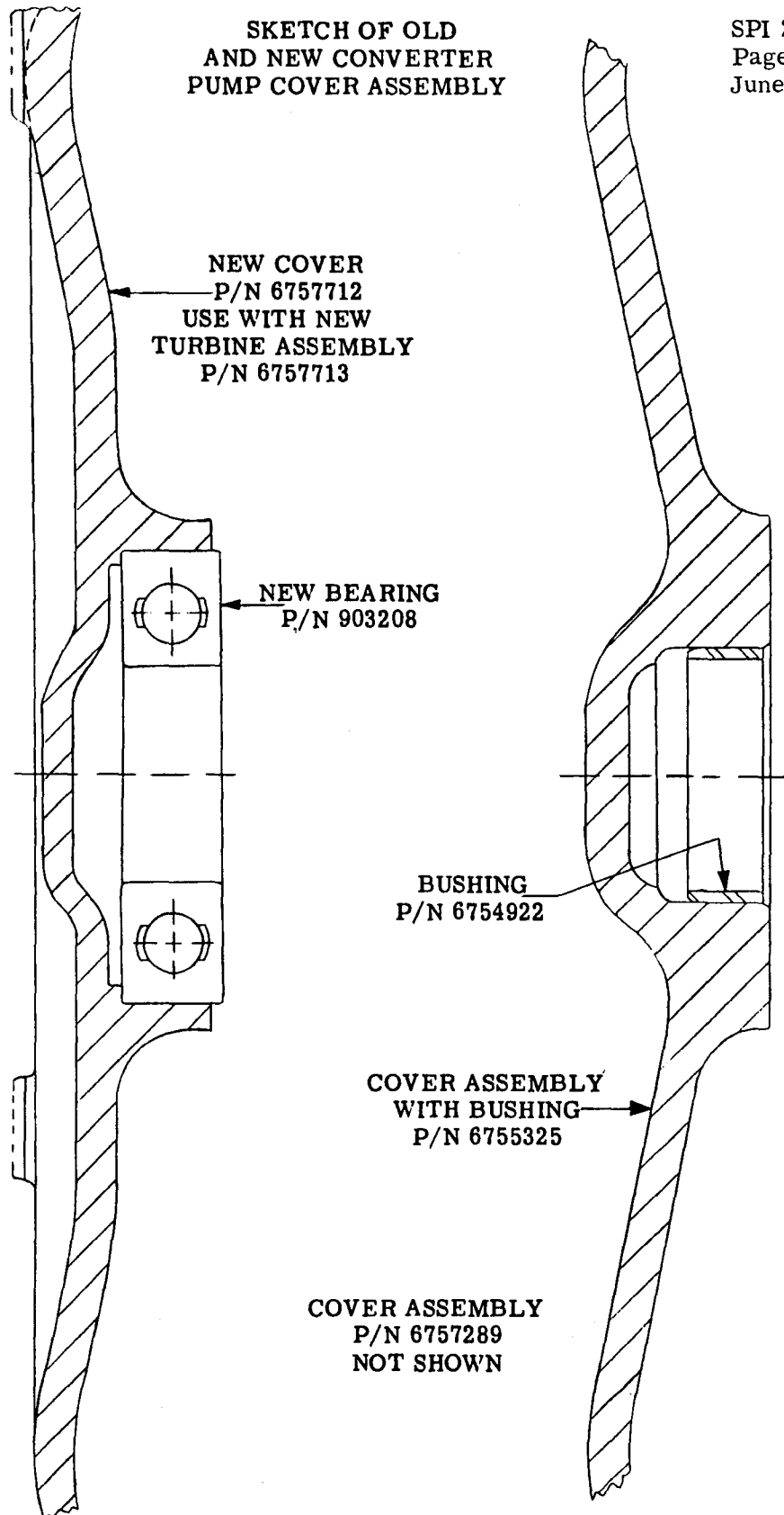
<u>Part No.</u>	<u>Part Name</u>	<u>Model</u>
6754922	Bushing - Conv. Pump Cover	TC-300
6755004	Washer - Turbine Thrust	TC-300
6755325	Cover Assem. - Conv. Pump	TC-300
6755467	Turbine Assembly	TC-300

All spare parts presently in stock should be used.

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SKETCH OF OLD
AND NEW CONVERTER
PUMP COVER ASSEMBLY



NEW COVER
P/N 6757712
USE WITH NEW
TURBINE ASSEMBLY
P/N 6757713

NEW BEARING
P/N 903208

BUSHING
P/N 6754922

COVER ASSEMBLY
WITH BUSHING
P/N 6755325

COVER ASSEMBLY
P/N 6757289
NOT SHOWN

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July 5, 1957

SUBJECT: TORQMATIC CONVERTER - TC-200 - ALL MODELS - RELEASE OF
IMPROVED STATOR ASSEMBLY.

As a product improvement, a new stator assembly has been released for the subject models. The primary change in the assembly consists of the addition of convoluted roller springs and the deletion of coiled roller springs.

This change became effective in production with converter S/N 19439.

Parts changes are as follows:

<u>New Part Number</u>	<u>Deleted Part No.</u>	<u>Nomenclature</u>	<u>Quantity Per Unit</u>
6769234	6755271	Stator Assembly	1
3719260	3702099	Cam, Stator	1
3719261	3689751	Spring, Roller	8
None	3691806	Guide	8
3702103	3702100	Washer, Thrust (P/N 3702100 deleted. P/N 3702103 increased from 1 to 2).	2

The new springs should be installed as shown in the attached sketch.

Spare Parts Information:

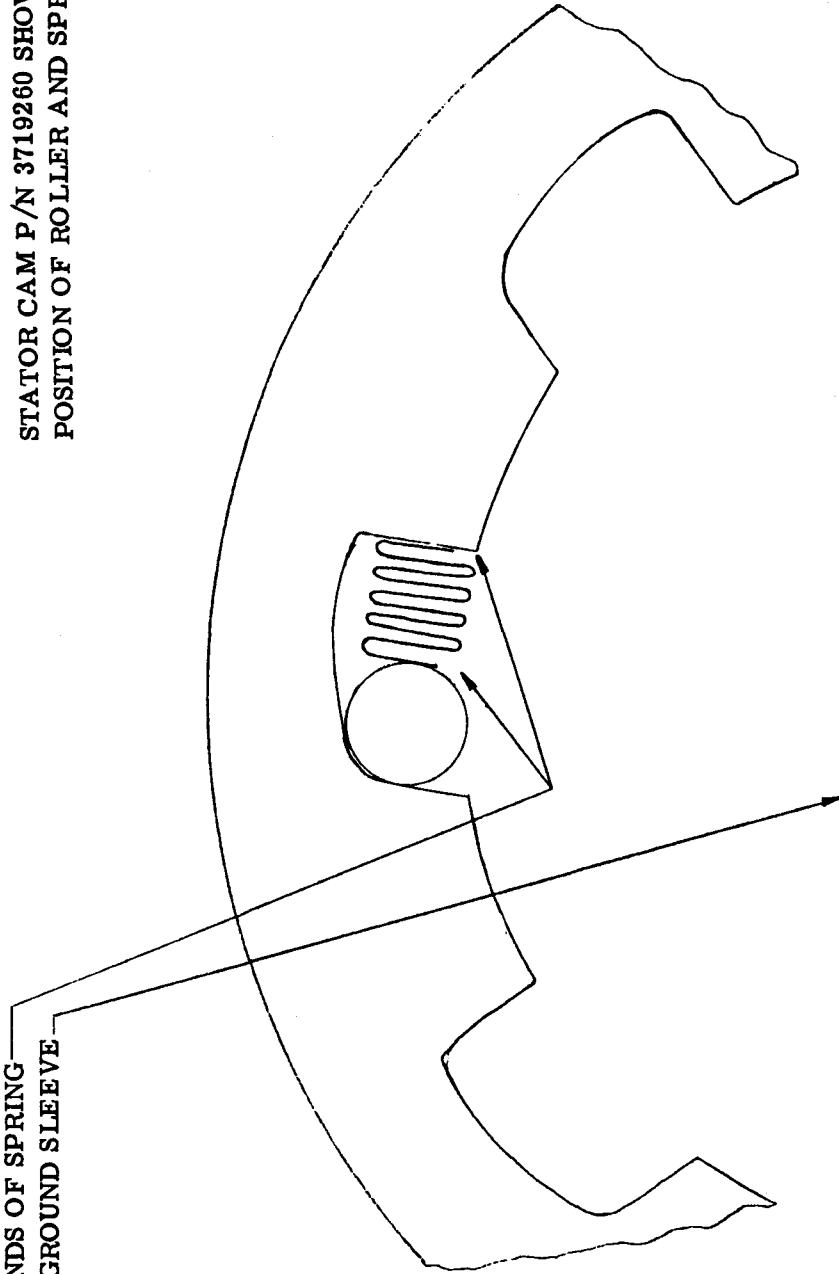
All superseded parts, in spare parts stock, may be used but should not be used in conjunction with any of the new parts. The complete assemblies P/N 6769234 and P/N 6755271 are interchangeable.

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STATOR CAM P/N 3719260 SHOWING
POSITION OF ROLLER AND SPRING

OPEN ENDS OF SPRING
TOWARD GROUND SLEEVE



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SUBJECT: RELEASE OF NEW CONVERTER CHARGING
PUMP AND NEW CONVERTER PUMP HUB

EQUIPMENT AFFECTED: TC-300 CONVERTER - ALL MODELS

EFFECTIVE SERIAL NUMBER: S/N 19085 - JUNE 6, 1957

As a product improvement, a new converter charging pump and a new converter pump hub have been released to the TC-300 converters. The parts changed are as follows:

<u>New Part Number</u>	<u>Cancelled Part No.</u>	<u>Nomenclature</u>	<u>Quantity Per Unit</u>
6768714	6757605	Hub, Converter Pump	1
6768707	6757621	Pump Assy., Oil	1
6768706	6757086	Gear and Body Assy.	1
6768704	6758349	Body, Pump	1

Spare Parts Information:

The new hub P/N 6768714 may be used for service on all units. The old hub P/N 6757605 may be used for service in units containing the old pump assembly. Service on the old hub will not be maintained.

The new gear and body assembly P/N 6768706 and the new pump assembly P/N 6768707 may be used for service in all units but must be used with the new converter hub. The old gear and body assembly P/N 6757086 and the old pump assembly P/N 6757621 may be used for service on all units with either the new or old hub. The old pump body, gear and body assembly and pump assembly will be maintained for service.

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Rev. "D" 11-19-65

Subject: Release of Greased Input Drive Configuration

Equipment Affected: TC-300 Converters

Effective Serial Numbers: S/N 23242 - TC-300

As a product improvement, a new input drive configuration has been released to TC-300 converters.

The new configuration, which was designed to decrease gear noise and extend gear life, incorporates a greased gear type drive. The grease is retained in the area between the flywheel and the converter drive cover by a seal which fits on the drive cover.

The newly released parts are as follows:

<u>Part Number</u>	<u>Part Name</u>	<u>Quantity</u>
6769876	Drive Ring	1
6769818	Sealring	1
9412270	Bolt	8
6769877	Grease	As Req. *
6769988	Gasket	1
103635	Nut	8
6769849	Cover Assy., Conv. Drive	1
6769913	Kit	1

* See Step 7, Page 4

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Installation of the new drive configuration in standard TC-300 converters which now have a gear type drive, will require the following changes:

<u>Add</u>	<u>Delete</u>	<u>Name</u>	<u>Quantity</u>
6769876	5192163	Drive Ring	1
6769818		Sealring	1
9412270	9409231	Bolt	8
6769877		Grease	As Req. *

TC-300 converters which have the front disconnect option, with the gear type drive, will require the parts listed above, plus the following:

<u>Add</u>	<u>Delete</u>	<u>Name</u>	<u>Quantity</u>
6769988		Gasket	1
102635	103026	Nut	8
	103321	Washer	8

Standard TC-300 converters with rollpin drive, will require the changes listed below:

<u>Add</u>	<u>Delete</u>	<u>Name</u>	<u>Quantity</u>
	6769070	Drive Ring Assy.	1
6769876		Drive Ring	1
6772408	6769071	Cover, Conv. Drive	1
6769818		Sealring	1
9412270	9409231	Bolt	8
6769877		Grease	As Req. *

* See Step 7, Page 4

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TC-300 converters which have the front disconnect option with rollpin drive, will require the same parts changes as standard TC-300 converters with rollpin drive, plus the following:

<u>Add</u>	<u>Delete</u>	<u>Name</u>	<u>Quantity</u>
6769988		Gasket	1
102635	103026	Nut	8
	103321	Washer	8

TC-376 converters, Assy. No. 6759643, will require the following parts changes:

<u>Add</u>	<u>Delete</u>	<u>Name</u>	<u>Quantity</u>
	6769070	Ring Assembly	1
6769876		Ring	1
6769849	6769049	Cover Assy., Converter Drive	1
6769818		Sealring	1
9412270	9409231	Bolt	8
6769877		Grease	As Req. *

The new drive ring P/N 6769876, seal P/N 6769818 and bolts P/N 9412270 are contained in a kit P/N 6769913. This kit will also include a container of grease P/N 6769877.

Since the grease used in this drive is the key factor in decreasing gear wear and gear noise, it is most important that the proper grade and type grease is used. Two readily available brands which are satisfactory are Mobil-Grease Special, with molybdenum disulfide, and Standard Calumet Viscous Lubricant 8X. Additional brands are listed on the attached supplement.

* See Step 7, Page 4

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The new parts may be installed as follows:

1. If the converter drive cover on the transmission or converter is a rollpin type cover, or if it is a badly worn gear type cover, it must be replaced by a new gear type cover P/N 6772408. (TC-376 converters, Assy. No. 6759643, require cover assembly P/N 6769849).
2. Remove the ring gear from the engine flywheel.
3. Drill one 1/8" vent hole in the engine flywheel or in the disconnect clutch drive plate. This should be located inside a 4" radius from the center of the flywheel, or, in converters with the front disconnect option, inside a radius of 2 1/2" from the center of the drive plate. Avoid drilling into the area which mates with the crankshaft flange.

Note: In some Detroit Diesel engines, there may already be a hole in the flywheel. If this engine is mated to a CRT-3000 series transmission or to a standard TC-300 converter, the hole should be plugged unless it is within a four inch radius from the center of the flywheel.

4. Apply a thin, even coat of #3 Permatex to the face of the ring gear and the mating surface on the flywheel. (In front disconnect models of TC-300 converters, apply the Permatex to both sides of gasket P/N 6769988.) Allow the Permatex to air dry for several minutes.
5. Bolt the ring gear P/N 6769876 to the flywheel (Standard Models) or to the clutch drive plate (Front Disconnect Models), using eight bolts P/N 9412270. (Front Disconnect Models will also require eight P/N 102635 nuts and one P/N 6769988 gasket.) Tighten the bolts to 36-43 lb.-ft. torque.
6. Apply a thin film of grease to the seal P/N 6769818 and install the seal in the groove behind the gear teeth in the converter drive cover.
7. Distribute enough grease P/N 6769877 around the inside of the drive ring to fill the spaces between the gear teeth and the cavity between the flywheel and the drive ring as shown by the cross-hatch area in attached sketches. The amount of grease used should be held to a minimum - approximately 1 1/2 ounces. Use grease only in the cross-hatched area shown.

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8. Mesh the gear on the drive cover with the drive ring gear, making sure the seal enters the I.D. of the drive ring.
9. Follow standard procedure in completing the installation.

Spare Parts Information:

All old parts in spare parts stock may be used for service on units which do not have the new drive configuration.

Explanation of Revision "C"

The method of installing input drive rings onto engine flywheels and disconnect clutch drive plates has been changed as shown below.

Old Method

1. Internal toothed lockwashers used with the drive ring bolts.
2. Drive ring bolts tightened to 33-40 ft. -lbs. torque.

New Method

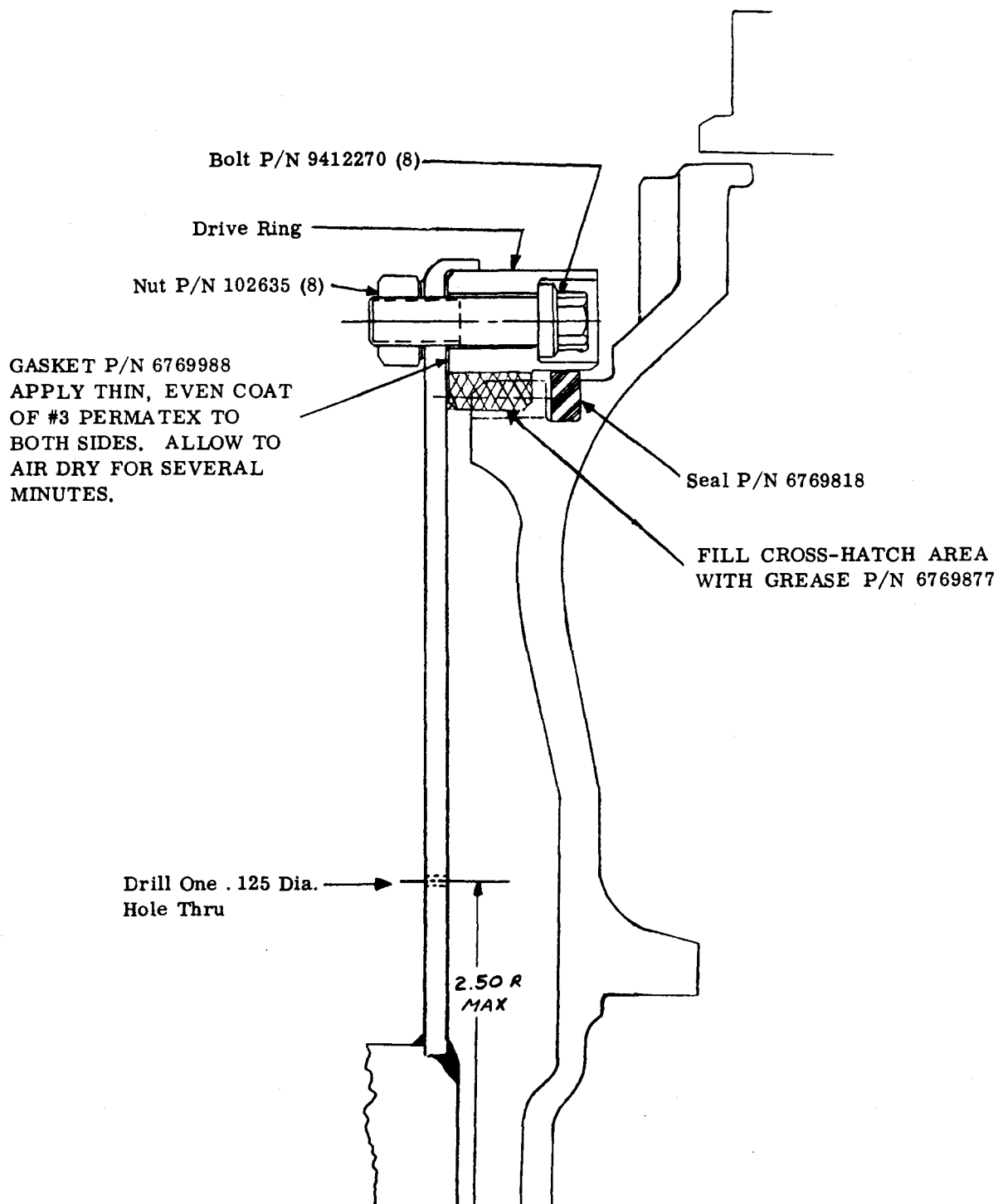
1. No washers required.
2. Required torque value increased to 36-43 ft. -lbs.

It is very important that the new procedure be followed. The lockwashers, P/N 6769878 have been removed from drive ring kits and will no longer be shipped with transmissions. Lockwashers attached to transmissions or converters awaiting installation should be removed and discarded.

The new torque requirement on the drive ring bolts should be carefully observed.

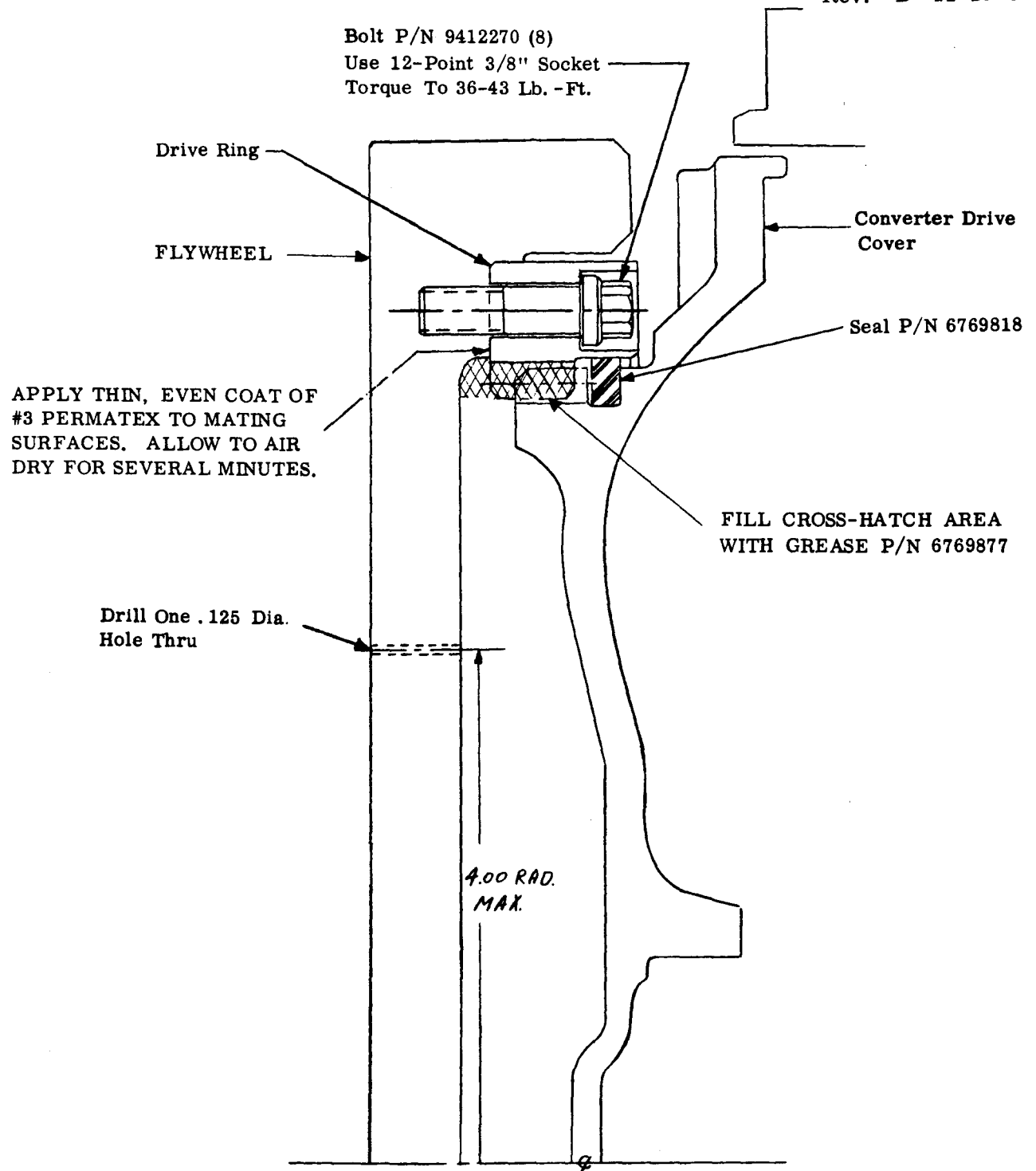
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CONVERTER WITH FRONT DISCONNECT CLUTCH

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STANDARD CONVERTERS & CRT-3000 SERIES TRANSMISSIONS

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December 13, 1961

Subject: Changes in Turbine Shaft and Rear Bearing

Equipment Affected: TC-200 and TC-300 Series Converters
(Rear Disconnect Models only)

Effective Serial Numbers: TC-200 - S/N 32093
TC-300 - S/N 32587

Rear disconnect models of TC-200 and TC-300 Series converters include a single-row ball bearing which supports the output end of the turbine shaft. In order to prevent this bearing from turning on the shaft, the diameter of the journal on the shaft has been increased, thus providing a tighter fit between the bearing and the shaft.

A new bearing has been released for use with the heavier shaft. The new bearing is so designed that the tight fit of the bearing on the shaft will not affect the internal clearances in the bearing.

The part number changes are as follows:

<u>New Part Number</u>	<u>Old Part Number</u>	<u>Part Name</u>
907050	903307	Bearing, Rear
6772734	6759948	Shaft, Turbine (TC-300)
6772735	6758592	Shaft, Turbine (TC-200)

Effect on Interchangeability:

The new shafts P/N 6772734 and P/N 6772735 may be used for service on units, regardless of serial number, but require the use of the new bearing P/N 907050.

The new bearing may be used on both old and new shafts.

The old bearing, P/N 903307, must not be used with the new shafts.

Spare Parts Information:

All old shafts, P/N 6759948 and P/N 6758592, and the old bearings, P/N 903307, may be used for service in converters with serial numbers below S/N 32093 (TC-200) and S/N 32587 (TC-300).

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 Rev. "A" 1-16-63

Subject: Change In Stator Design

Equipment Affected: TC-200 Series Converters

Effective Serial Number: S/N 31823

For ease of manufacturing, the converter stator used in TC-200 series converters has been changed from a weldment to a die casting.

The change in the stator design made it necessary to redesign the various parts that mate with the stator.

The part number changes are as follows:

<u>New Part No.</u>	<u>Old Part No.</u>	<u>Part Name</u>
3777395	3702688	Stator
3735785		Washer, Thrust (2)
	3702103	Washer, Thrust (2)
	6756233	Washer, Thrust (1)
	3709094	Washer, Thrust (1)
		(In the old design, four thrust washers were used. The new design requires only two. See Explanation of Parts Changes on Page 2.)
3702744	6756629	Washer, Thrust, Converter Pump
6773200	6755266	Pump Assy., Charging Oil
6773199	6754964	Support, Stator (Groundsleeve)
	6769234	Stator Assy.
6774685		Kit, Stator Replacement (This kit can be used in all TC-200 series converters, regardless of serial number, therefore a service stator assembly is no longer required.)

Stator Replacement Kit

The Stator replacement kit, P/N 6774685, contains all the parts necessary for the replacement of the stator in all TC-200 converters, regardless of serial number. An instruction sheet (giving the recommended assembly procedure) is included in the kit. (A copy of the instruction sheet is attached to this letter.)

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The kit contains the following parts:

<u>Part Number</u>	<u>Part Name</u>	<u>Quantity</u>
3777395	Stator	1
3719260	Cam, Stator	1
3702104	Snpring, Thrust Washer Retaining	2
3735785	Washer, Stator Thrust	2
3702744	Washer, Converter Pump Thrust	1
6774686	Instruction Sheet No. 38	1

Explanation Of Parts Changes:

In the old configuration, a steel thrust washer, P/N 3702103, was installed on each side of the stator cam, and the cam and washers were retained in the stator by two snaprings. On the turbine side of the stator, an aluminum thrust washer, P/N 3709094, fitted into the stator, bearing against the steel thrust washer. A cast iron thrust washer, P/N 6756233, was similarly used on the converter pump side of the stator, however, this washer splined onto the stator support.

In the new configuration, only one thrust washer is used on each side of the stator cam. On the turbine side, washer P/N 3735785 replaces both the steel washer, P/N 3702103, and the aluminum washer, P/N 3709094. On the converter pump side of the stator, a second washer P/N 3735785 replaces both the steel washer P/N 3702103 and the cast iron thrust washer P/N 6756233. Thus, one part number, 3735785, replaces three part numbers - 3702103, 3709094 and 6756233.

The old converter pump thrust washer, P/N 6756629, had a bronze facing that mated with the cast iron thrust washer. Since the cast iron washer has been replaced by an aluminum washer, the bronze facing is no longer desirable. The bronze-faced washer was replaced by a plain steel converter pump thrust washer, P/N 3702744. NOTE: Under no circumstances should the bronze-faced thrust washer be interchanged with the plain steel thrust washer. An early failure will result.

The change in the stator support was brought about by the elimination of the splined thrust washer, P/N 6756233. Since the new thrust washer is not splined to the stator support, a much shorter spline on the support is required.

Affect On Parts Interchangeability:

The new stator, P/N 3777395, can be used in all TC-200 series converters, but requires the use of the new washers, P/N 3735785, and the new converter pump thrust washer, P/N 3702744.

The old stator, P/N 3702688, can not be used with any of the new parts.

The new thrust washers, P/N 3702744 and P/N 3735785 are for use with the new stator only.

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The new converter pump thrust washer, P/N 3702744, can be used with the new stator only. The old converter pump thrust washer, P/N 6756629, can be used with the old stator only.

The new stator support, P/N 6773199, and/or the new charging pump assembly, P/N 6773200, can be used with the new stator only.

The old stator support, P/N 6754964, can be used with both the new stator and the old stator.

Spare Parts Information:

All old parts in spare parts stock should be used in converters with serial numbers below S/N 31823.

The parts listed below will be maintained for service:

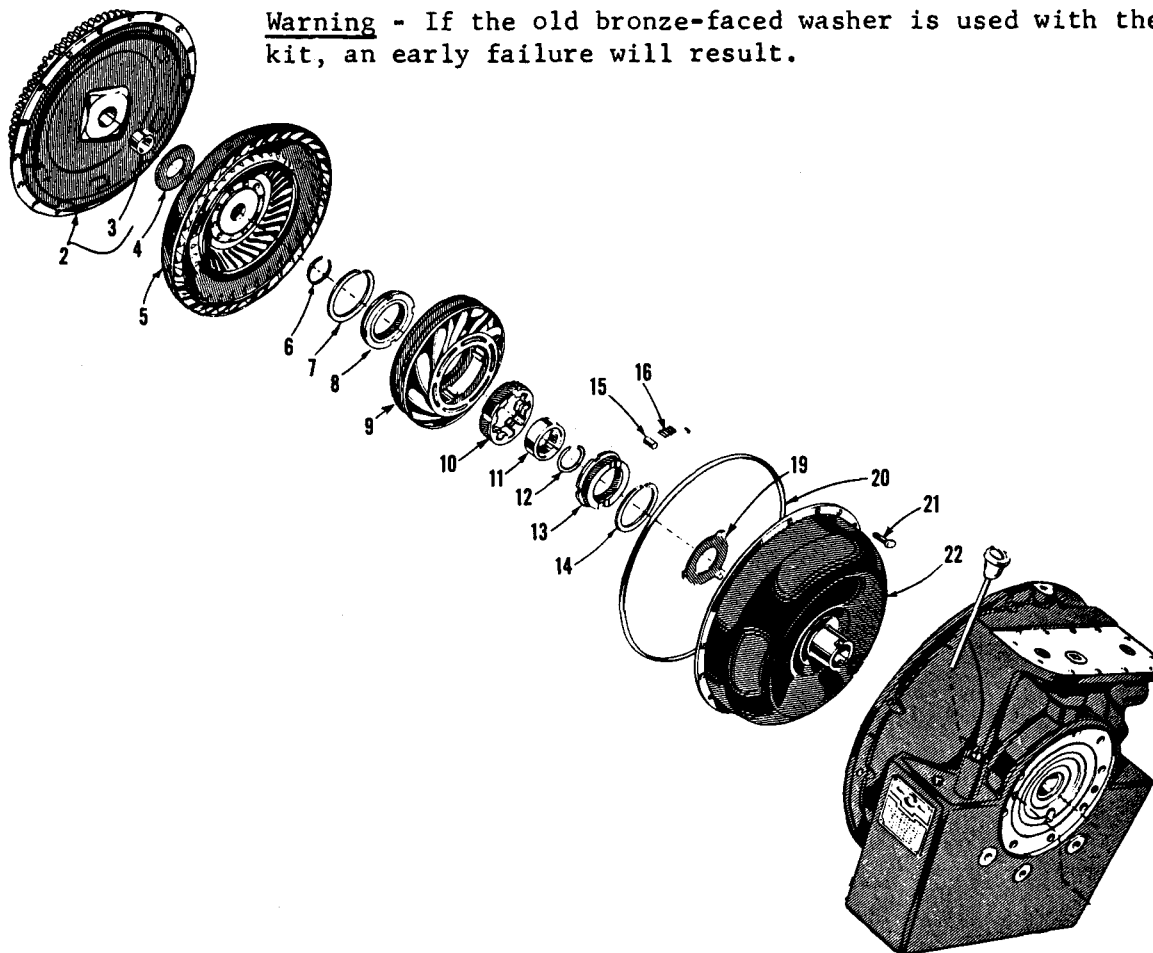
<u>Part No.</u>	<u>Part Name</u>
6756629	Washer, Thrust
6756233	Washer, Thrust
3709094	Washer, Thrust
6755266	Pump Assy.
6754964	Support, Stator
3702103	Washer, Thrust

Service Manager
Transmissions Operations

Instruction Sheet No. 38
(For Kit P/N 6774685)

PLEASE NOTE: If the serial number of the converter you are repairing is below S/N 31823, be sure to remove and discard the old converter pump thrust washer. It is a steel washer which has three tabs and a bronze facing. The new thrust washer, P/N 3702744, has the three tabs but does not have the bronze facing.

Warning - If the old bronze-faced washer is used with the parts in this kit, an early failure will result.



Assembly Procedure

1. Assemble the converter to the point where the converter pump (22) has been installed.
2. Install the new thrust washer (19) and the snapring (12).
3. Note the word "Front" cast on one side of the stator (9). Turn the stator over and install the thrust washer (13) and the snapring (14).
4. Install the cam (10) into the stator, from the front side. Be sure the deep end of the cam pockets are in a counterclockwise direction.
5. Install the rollers (15) and springs (16) into the cam pockets, positioning the springs so that the open ends will be next to the race (11).
6. Insert the race into the stator, then install the stator and race onto the stator support (groundsleeve). Work carefully to prevent the rollers and springs from dropping out of the stator.
7. Install the snapring (6) into the groove in the stator support.
3. Install the thrust washer (3) and the snapring (9) into the stator.

SEE INSIDE FRONT COVER BEFORE USING THIS INDEX

NUMERICAL PARTS INDEX

The numerical parts index lists the parts reference number and the figure number of the illustration in which it appears. The reference numbers are keyed to the group listings. However, you must know the converter assembly part number to identify the right group.

PART NO	FIG NO	REF NO	HISTORY	PART NO	FIG NO	REF NO	HISTORY
102635	6-1	9		179812	3	56	
103026	1-2	10		179812	3-1	56	
103026	6-1	9		179812	3-2	50	
103320	1	54		179812	3-3	56	
103320	1-1	59		179817	1	53	
103320	1-2	44		179817	1-1	58	
103320	3	40		179817	1-2	43	
103320	3-1	42		179817	3	41	
103320	3-2	36		179817	3-1	43	
103320	3-3	42		179817	3-2	37	
103320	7-1	8		179817	3-3	43	
103321			R 103323	179819	7-1	7	
103321	2	36		179837	2	35	
103321	4	5		179837	4	6	
103321	5-1	30		179840	6-1	14	
103321	5-1	35		179841	5-1	29	
103321	6-1	13		179845			R 179887
103323			RB 103321	179845	5-1	36	
103323	2	10		179887			RB 179845
103323	4	43		181345	5-1	24	
105456	1	37		181374	6-1	10	
105456	1-1	42		181429	2	11	
105456	1-2	27		181429	4	44	
105456	3	45		186271	7-1	1	
105456	3-1	47		191758			R 127800
105456	3-2	41		191758	5-1	25	
105456	3-3	47		191758	6-1	7	
111296			RB 127800	214279	5-1	23	
113782	5-1	32		436569			RB 6756618
113903	6-1	6		442812			RB 451006
113989			R 6754527	444576	1	46	
113989	3	37		444576	1-1	49	
113989	3-1	39		444576	1-2	36	
113989	3-2	33		444576	3	54	
113989	3-3	39		444576	3-1	54	
113998	1	55		444576	3-2	48	
113998	1-1	60		444576	3-3	54	
113998	1-2	45		444576	7-1	19	
113998	3	39		444672	1	41	
113998	3-1	41		444672	1-1	48	
113998	3-2	35		444672	1-2	31	
113998	3-3	41		444672	3	47	
114351	5-1	11		444672	3-1	49	
114498	5-1	26		444672	3-2	43	
114604	5-1	10		444672	3-3	49	
117213	1-2	1		444678	1	49	
127800			R 111296	444678	1-1	45	
127800			RB 191758	444678	1-2	39	
142862	1	44		444678	3	57	
142862	1-1	51		444678	3-1	57	
142862	1-2	34		444678	3-2	51	
142862	3	53		444678	3-3	57	
142862	3-1	53		451006			R 442812
142862	3-2	47		451006	1	1	
142862	3-3	53		451006	1-1	7	
147465	7-1	16		451006	3	4	
179793	3	21		451006	3-1	10	
179812	1	50		451006	3-2	4	
179812	1-1	55		451006	3-2	59	
179812	1-2	40		451006	3-3	10	

R - REPLACES

RB - REPLACED BY

PART NO	FIG NO	REF NO	HISTORY	PART NO	FIG NO	REF NO	HISTORY
453621	1	47		3689838	2	2	
453621	1-1	47		3689838	4	15	
453621	1-2	37		3691806	1	17	
453621	3	59		3691806	1-1	22	
453621	3-1	59		3702068			RB 760612
453621	3-2	53		3702069	1	27	
453621	3-3	59		3702069	1-1	32	
456635	2	12		3702069	1-2	17	
456635	4	16		3702079			RB 3790478
753859			RB 6778856	3702082			RB 3713622
753860			RB 6778857	3702099			RB 3719260
760612			R 3702068	3702100			RB 3702103
760612			RB 3737894	3702101	1	15	
900454			R 954551	3702101	1-1	20	
900454			RB 907540	3702103			R 3702100
903010	3-1	5		3702103	1	62	
903010	3-2	6		3702103	1-1	67	
903010	3-3	5		3702104	1	7	
903011	3	9		3702104	1	14	
903202			R 954498	3702104	1	60	
903202			RB 907411	3702104	1-1	12	
903208	1-1	5		3702104	1-1	19	
903208	3	9		3702104	1-1	65	
903209			RB 6757374	3702688			RB 3796309
903307			RB 907050	3702718			RB 3719262
903307	2	4		3702724	1	5	
907050			R 903307	3702744			R 6756629
907050	2	4		3702744	1	19	
907050	2	4		3702744	1-1	25	
907050	4	2		3709094	1	56	
907411			R 903202	3709094	1-1	61	
907411	2	24		3713622			R 3702082
907411	4	30		3713622	1	20	
907411	4	30		3713622	1-1	24	
907540			R 900454	3717166	1	21	
907540	6-1	3		3717166	1-1	26	
954466	3	22		3719252	1	29	
954498			RB 903202	3719252	1-1	34	
954528	4	2		3719252	1-2	19	
954551			RB 900454	3719260			R 3702099
2222424	2	22		3719260	1	10	
2222424	2	31		3719260	1	63	
2222424	2	34		3719260	1-1	15	
2222424	4	28		3719260	1-1	68	
2222424	4	28		3719261	1	16	
2222424	4	37		3719261	1-1	21	
3224085	2	25		3719262			R 3702718
3224085	4	31		3719262	1	4	
3224085	4	31		3735785	1	8	
3224773	2	27		3735785	1	13	
3224773	4	33		3735785	1-1	13	
3324773	4	33		3735785	1-1	18	
3689751	1	18		3737894			R 760612
3689751	1-1	23		3737894			RB 3772748
3689760	1	30		3744348	1	26	
3689760	1-1	35		3744348	1-1	31	
3689760	1-2	20		3744348	1-2	16	
3689826	1	31		3744349	1	28	
3689826	1-1	36		3744349	1-1	33	
3689826	1-2	21		3744349	1-2	18	

R - REPLACES

RB - REPLACED BY

PART NO	FIG NO	REF NO	HISTORY	PART NO	FIG NO	REF NO	HISTORY
3772748			R 3737894	6750046	2	3	
3772748	1	25		6750046	4	1	
3772748	1-1	30		6750127	1-1	4	
3772748	1-2	15		6750272			RB 6768267
3777395	1	9		6751524	2	26	
3777395	1-1	14		6751524	4	32	
3790478			R 3702079	6751524	4	32	
3790478	1	3		6751531	2	14	
3796309			R 3702688	6751531	4	18	
3796309	1	61		6751541			RB 9422228
3796309	1-1	66		6751822			R 7709143
5192142	5-1	15		6751822	6-1	1	
5192153	5-1	2		6751839	4	12	
5192176	5-1	18		6751839	4	15	
5192180	5-1	1		6752033	7-1	9	
5192180	6-1	11		6752034	7-1	11	
5192180	6-1	11		6752035	7-1	10	
5192182	5-1	7		6753487	6-1	2	
5192489	5-1	28		6753849			RB 6758213
5193064	5-1	27		6753857			RB 6773249
5193253			RB 5194671	6753866	3	26	
5193255	5-1	31		6753866	3-1	28	
5193258	5-1	5		6753866	3-2	22	
5193259	5-1	20		6753866	3-3	28	
5193260			RB 5196719	6753966	2	5	
5193420	5-1	19		6753966	4	4	
5193421	5-1	17		6754299	7-1	3	
5193422	5-1	13		6754314	7-1	5	
5193430	5-1	12		6754349	2	40	
5193431	5-1	6		6754349	4	8	
5194138	5-1	14		6754488	3	24	
5194140	5-1	16		6754488	3-1	26	
5194244	5-1	33		6754488	3-2	21	
5194291	5-1	9		6754488	3-3	27	
5194294	5-1	8		6754489			RB 6757729
5194365	5-1	4		6754490	1	51	
5194671			R 5193253	6754490	1-1	56	
5194671	5-1	3		6754490	1-2	41	
5196719			R 5193260	6754490	3	43	
5196719	5-1	21		6754490	3-1	45	
6700296	4	47		6754490	3-2	39	
6701230	1	38		6754490	3-3	45	
6701230	1-1	43		6754495	1	52	
6701230	1-2	28		6754495	1-1	57	
6701230	3	44		6754495	1-2	42	
6701230	3-1	46		6754495	3	42	
6701230	3-2	40		6754495	3-1	44	
6701230	3-3	46		6754495	3-2	38	
6702958	3	35		6754495	3-3	44	
6702958	3-1	37		6754501			RB 6759946
6702958	3-2	31		6754505			RB 6757783
6702958	3-3	37		6754506	2	17	
6702989	3-1	4		6754506	4	22	
6702989	3-3	4		6754508	2	16	
6703023	4	1		6754508	4	21	
6703224			RB 6758296	6754519			RB 6757605
6750046	1	6		6754527			RB 113989
6750046	1	12		6754528			RB 6757599
6750046	1-1	11		6754549			RB 6758599
6750046	1-1	17		6754549			RB 6768955

R - REPLACES

RB - REPLACED BY

PART NO	FIG NO	REF NO	HISTORY	PART NO	FIG NO	REF NO	HISTORY
6754550			RB 6757621	6755892	3-3	19	
6754922	3	6		6755896	3	19	
6754947	4	10		6755897	3	17	
6754958	1	11		6755897	3-1	20	
6754958	1-1	16		6755897	3-2	13	
6754962			R 6754962	6755903			R 6770239
6754962			RB 6754962	6755903	4	13	
6754962	2	1		6755988	3	28	
6754963	2	9		6755988	3-1	30	
6754968	1	33		6755988	3-2	24	
6754968	1-1	38		6755988	3-3	30	
6754968	1-2	23		6755999			RB 6756847
6754994	3	14		6756001	3	27	
6754994	3-1	17		6756001	3-1	29	
6754999			RB 6771296	6756119	7-1	17	
6755004	3	7		6756233	1	57	
6755031	4	17		6756233	1-1	62	
6755032	2	13		6756321	2	32	
6755221	1	2		6756348			RB 6774572
6755271			RB 6769234	6756362	7-1	12	
6755302	2	6		6756519	1	22	
6755302	4	41		6756519	1-1	27	
6755325			RB 6757712	6756615	6-1	8	
6755325	3	5		6756616			RB 6772307
6755333	4	42		6756618			R 436569
6755372			RB 6759947	6756618	6-1	5	
6755377	2	21		6756620	6-1	4	
6755377	4	27		6756627	6-1	4	
6755377	4	27		6756629			RB 3702744
6755380	4	35		6756629	1	58	
6755383	2	19		6756629	1-1	63	
6755463			RB 6758284	6756637			RB 6778121
6755464			RB 6768902	6756644	1	24	
6755467			RB 6757713	6756644	1-1	29	
6755469	2	39		6756644	1-2	14	
6755488	7-1	2		6756658	7-1	6	
6755618	2	23		6756659	3	62	
6755618	4	29		6756659	3-2	54	
6755618	4	29		6756659	7-1	6	
6755619	2	20		6756689	2	29	
6755619	4	34		6756689	4	38	
6755619	4	34		6756691	4	39	
6755786	1	35		6756693	1	45	
6755786	1-1	40		6756693	1-1	50	
6755786	1-2	25		6756693	1-2	35	
6755786	3	38		6756693	3	51	
6755786	3-1	40		6756693	3-1	51	
6755786	3-2	34		6756693	3-2	45	
6755786	3-3	40		6756693	3-3	51	
6755789	1	40		6756706	2	30	
6755789	1-1	54		6756706	4	36	
6755789	1-2	30		6756847			R 6755999
6755789	3	55		6756847	3	27	
6755789	3-1	55		6756847	3-1	29	
6755789	3-2	49		6756856	2	18	
6755789	3-3	55		6756864	7-1	15	
6755803			RB 6757634	6756865	4	25	
6755838			RB 6769091	6756869	4	17	
6755892	3	16		6756872	1	34	
6755892	3-1	19		6756872	1-1	39	

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PART NO	FIG NO	REF NO	HISTORY		PART NO	FIG NO	REF NO	HISTORY	
6756872	1-2	24			6759906	1-1	3		
6756913	2	40			6759906	3-1	3		
6756913	4	8			6759906	3-3	3		
6756946	4	26			6759926	1-1	1		
6756947	4	24			6759926	3-1	1		
6756947	7-1	14			6759926	3-3	1		
6757086			RB	6768706	6759927	1-1	6		
6757374			R	903209	6759928	1-1	8		
6757374			RB	9411628	6759930			RB	6772312
6757426	2	37			6759932	1-1	10		
6757426	4	7			6759946			R	6754501
6757521	2	33			6759946	4	14		
6757599			R	6754528	6759947			R	6755372
6757599			RB	6769530	6759947	4	14		
6757605			R	6754519	6759948			R	6757783
6757605			RB	6768714	6759948			RB	6772734
6757621			R	6754550	6759971	3-2	20		
6757621			RB	6768707	6759971	3-3	26		
6757634			R	6755803	6763013			R	7374627
6757634	3	20			6763013	4	3		
6757634	3-1	22			6763013	4	3		
6757709	1	48			6763013	4	19		
6757709	1-1	46			6764025	4	46		
6757709	1-2	38			6764626			R	6769530
6757712			R	6755325	6764626	3-3	38		
6757712			RB	6772408	6768267			R	6750272
6757713			R	6755467	6768267	1	43		
6757713			RB	6769453	6768267	1-1	52		
6757729			R	6754489	6768267	1-2	33		
6757729			RB	6768942	6768267	3	52		
6757737	2	41			6768267	3-1	52		
6757737	2	41			6768267	3-2	46		
6757737	4	50			6768267	3-3	52		
6757757	2	42			6768346	4	40		
6757758	4	45			6768350	3	34		
6757783			R	6754505	6768350	3-1	36		
6757783			RB	6759948	6768350	3-2	30		
6758054	4	26			6768350	3-3	36		
6758054	4	26			6768351	3	33		
6758124	2	19			6768351	3-1	35		
6758213			R	6753849	6768351	3-2	29		
6758213			RB	6768644	6768351	3-3	35		
6758284			R	6755463	6768425	2	23		
6758284			RB	6768903	6768425	4	29		
6758295	2	28			6768426	2	20		
6758296			R	6703224	6768426	4	34		
6758296	3	25			6768644			R	6758213
6758296	3-1	27			6768644			RB	6769816
6758592			RB	6772735	6768704	3	32		
6758597	3	58			6768704	3-1	34		
6758597	3-1	58			6768704	3-2	28		
6758597	3-2	52			6768704	3-3	34		
6758597	3-3	58			6768706			R	6757086
6758599			R	6754549	6768706	3	30		
6758599			RB	6768956	6768706	3-1	32		
6758777	3	17			6768706	3-2	26		
6758987			RB	6772328	6768706	3-3	32		
6758987	6-1	8			6768707			R	6757621
6758988	6-1	8			6768707	3	29		
6759462	2	1			6768707	3-1	31		

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RB - REPLACED BY

PART NO	FIG NO	REF NO	HISTORY	PART NO	FIG NO	REF NO	HISTORY
6768714			R 6757605	6769621	3	38	
6768714	3	23		6769621	3	38	
6768714	3-1	25		6769621	3-1	40	
6768727	3	11		6769621	3-2	34	
6768902			R 6755464	6769622			R 6769089
6768902	3	15		6769622	3	55	
6768902	3-1	18		6769622	3	55	
6768903			R 6758284	6769622	3-1	55	
6768903	3	11		6769622	3-2	49	
6768903	3-1	14		6769623			R 6769044
6768942			R 6757729	6769623	3	46	
6768942	1	42		6769631	3-2	16	
6768942	1-1	53		6769816			R 6768644
6768942	1-2	32		6769816	3	31	
6768942	3	49		6769816	3-1	33	
6768942	3-1	50		6769816	3-2	27	
6768942	3-2	44		6769816	3-3	33	
6768942	3-3	50		6769818	3	3	
6768955			R 6754549	6769818	3-1	9	
6768955	1	39		6769818	3-2	3	
6768955	1-1	44		6769818	3-3	9	
6768955	1-2	29		6769849			R 6769049
6768956			R 6758599	6769849	3	60	
6768956	3	46		6769856			R 6769091
6768956	3-1	48		6769856	3	18	
6768956	3-2	42		6769856	3-1	21	
6768956	3-3	48		6769876			RB 6775414
6769044			RB 6769623	6769908	2	19	
6769045	3	18		6769988	6-1	12	
6769048	3	16		6770239			R 8347316
6769049			RB 6769849	6770239			RB 6755903
6769050	4	49		6771296			R 6754999
6769051	4	48		6771296	3	13	
6769052	3	50		6771296	3-1	16	
6769053	3	63		6772301	3-1	11	
6769054	3	49		6772301	3-3	11	
6769055	3	36		6772307			R 6756616
6769057	4	41		6772307	6-1	8	
6769060	3	10		6772309	3-1	6	
6769061	3	29		6772309	3-3	6	
6769062	3	23		6772310	3-1	13	
6769073	3	48		6772312			R 6759930
6769089			RB 6769622	6772312	1-1	2	
6769090			RB 6769621	6772312	3-1	2	
6769090	3	38		6772312	3-3	2	
6769091			R 6755838	6772328			R 6758987
6769091			RB 6769856	6772328	6-1	8	
6769105	3	11		6772408			R 6757712
6769234			R 6755271	6772408			RB 6830464
6769234	1	59		6772408	3	8	
6769234	1-1	64		6772734			R 6759948
6769453			R 6757713	6772734	4	11	
6769453	3	10		6772735			R 6758592
6769491	3-2	17		6772735	2	39	
6769491	3-3	21		6772735	2	39	
6769530			R 6757599	6772735	2	39	
6769530			RB 6764626	6772786	2	19	
6769530	3	36		6773199	1	32	
6769530	3-1	38		6773199	1-1	37	
6769621			R 6769090	6773200	1	23	

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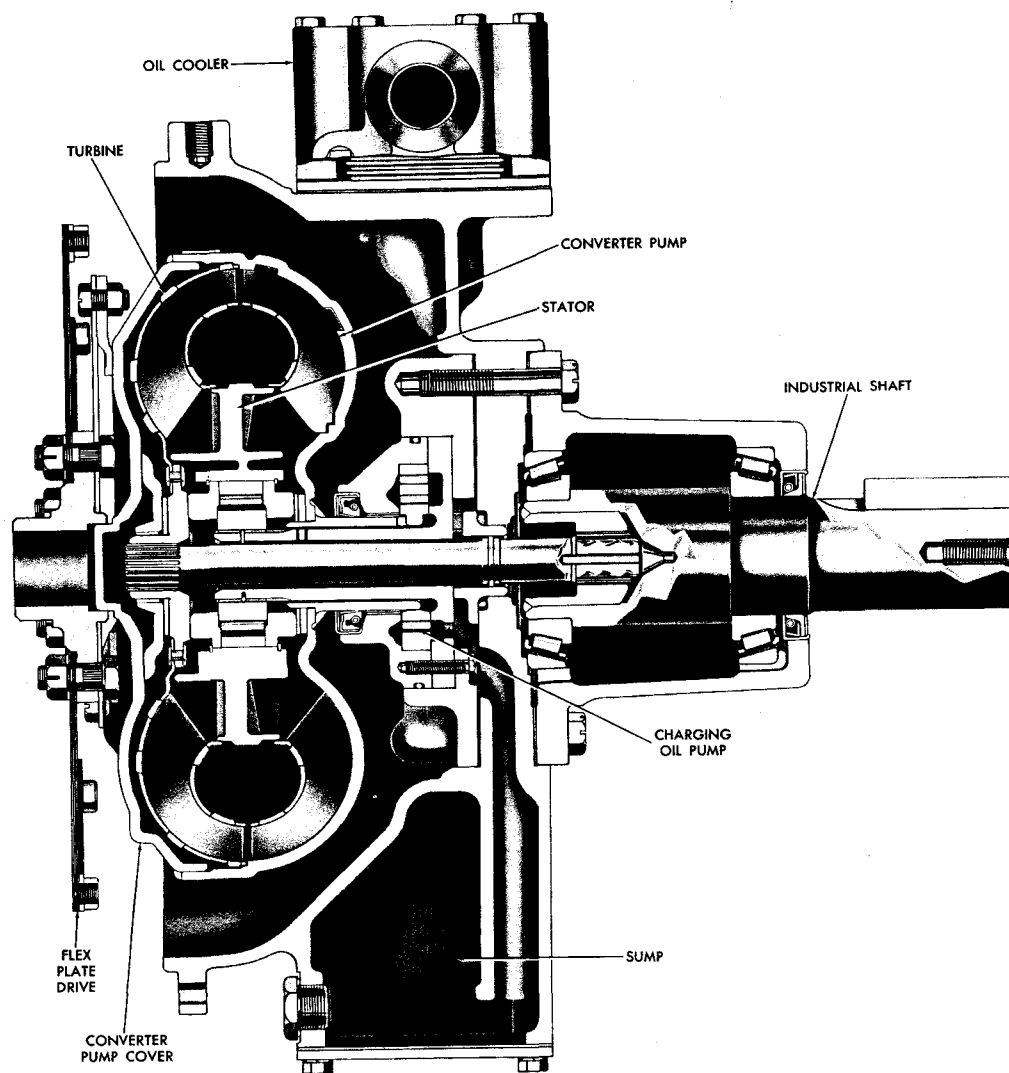
PART NO	FIG NO	REF NO	HISTORY	PART NO	FIG NO	REF NO	HISTORY
6773200	1-1	28		6777884			R 6777108
6773249			R 6753857	6777884	1-2	6	R 6777110
6773249	2	8		6777885	1-2	7	R 6774109
6773249	4	10		6778111	1-2	11	R 6756637
6773679	3-2	15		6778121	5-1	34	R 753859
6773679	3-3	22		6778856	2	15	
6773933	4	41					
6774008	3-2	60		6778856	4	20	R 753860
6774012	1-2	2		6778857	2	15	
6774012	3-2	56		6778857	4	20	
				6779631	3-3	23	R 6772408
6774104	1-2	22		6830464	3-2	5	
6774105	1-2	12	RB 6778111	6830464	4	8	RB 6763013
6774109				6831578			R 8347400
6774266	3	46		7374627			
6774266	3-2	42	R 6756348	7450737			
6774572							
6774572	3	61		7450737	3	12	
6774616	3-2	23		7450737	3-1	15	RB 6751822
6774616	3-3	29		7709143			RB 6770239
6774620	3-2	14		8347316			RB 7450737
				8347400			
6774620	3-3	20		8522609	7-1	4	
6774621	3-2	19		8618363	1-1	9	
6774621	3-3	25		8618363	3-1	12	
6774622	3-2	7		8618363	3-3	12	
6774626	3-2	32		9409033	1-2	5	
6774627	3-2	23					
6774627	3-3	29		9409055			RB 9409203
6774794	3-2	25		9409055	2	7	
6774794	3-3	31		9409060	7-1	18	
6774816	3-3	13		9409062	1	36	
				9409062	1-1	41	
6774847	3-2	12		9409062	1-2	26	
6774847	3-3	18		9409073			RB 9409088
6774962	3-2	8		9409088			R 9409073
6774962	3-3	14		9409088	3	21	
6774966	3-2	11		9409088	3-1	23	
6774966	3-3	17					
6774968	3-2	10		9409203			R 9409055
6774968	3-3	16		9409203			RB 9409240
6775414			R 6769876	9409203	2	7	
6775414	3	1		9409203	2	7	
				9409203	2	7	
6775414	3-1	7		9409203	2	38	
6775414	3-2	1		9409203	4	9	
6775414	3-3	7		9409203	4	23	
6776818	3-2	7		9409227	4	23	
6777106	1-2	13		9409227	7-1	13	R 9409203
6777107	1-2	9		9409240			
6777108			R 6777460				
6777108			RB 6777884				
6777108	1-2	6					
6777109	1-2	8					
6777110			R 6777459				
6777110			RB 6777885				
6777110	1-2	7		9409240	2	7	
6777120	4	8		9409240	2	7	
6777448	1-2	3		9409240	4	9	
6777448	3-2	57		9409258	3-2	55	
6777449	1-2	4		9411628			R 6757374
6777449	3-2	58		9411628			RB 9417910
6777459				9412270	3	2	
6777460			RB 6777110	9412270	3-1	8	
			RB 6777108	9412270	3-2	2	
				9412270	3-3	8	

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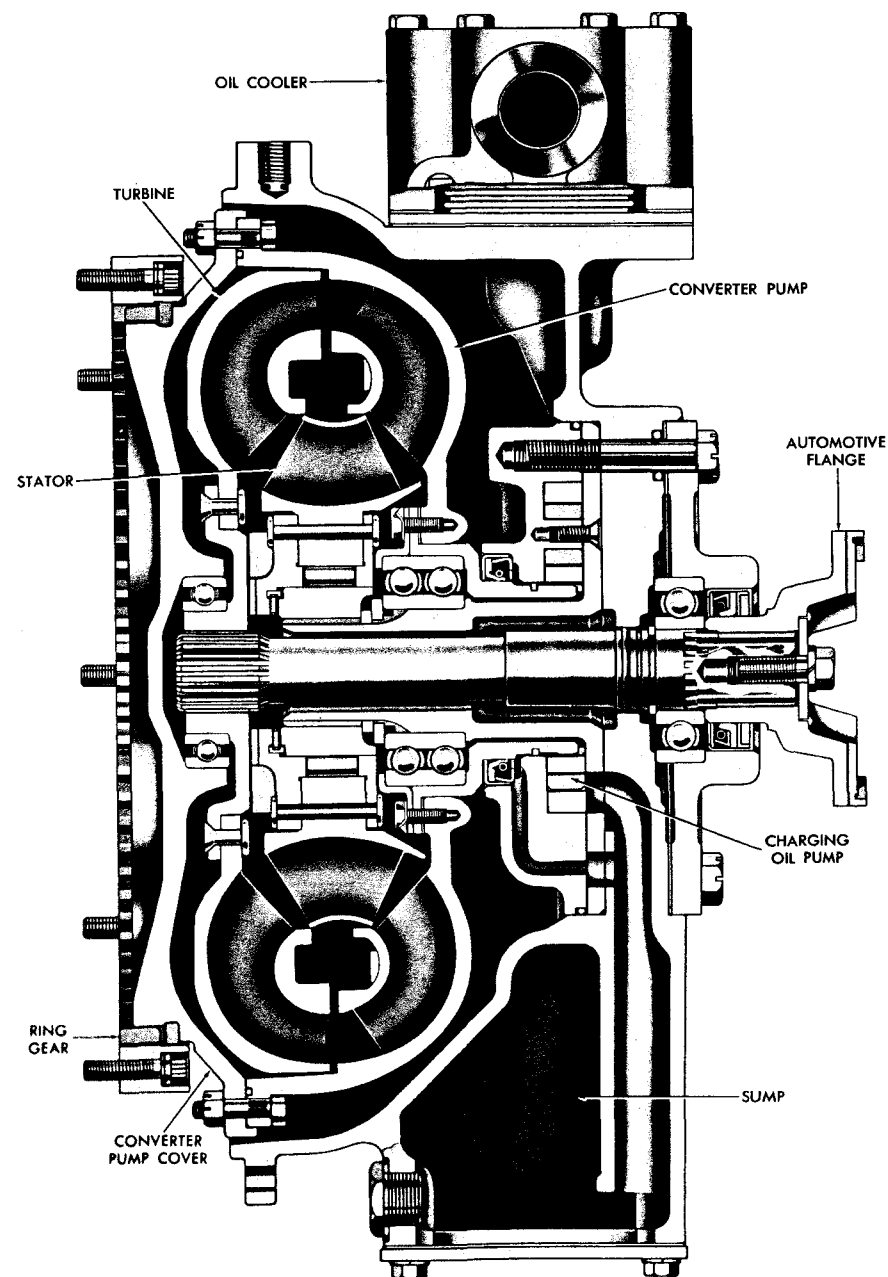
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PART NO	FIG NO	REF NO	HISTORY	PART NO	FIG NO	REF NO	HISTORY
9417499	3-2	9					
9417499	3-3	15					
9417910			R 9411628				
9417910	3	22					
9417910	3-1	24					
9420046	3-2	18					
9420046	3-3	24					
9422228			R 6751541				
9422228	2	12					
9422228	4	16					

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Model TC 250 converter—cross-section view



Model TC 300 converter (3-element)—cross-section view

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