

Document ID# 1709018

2004 Cadillac CTS

Info - Product Quality Center for Engine and Transmission Assembly and Transfer Case Replacement #02-07-30-029F - (Oct 3, 2005)

Product Quality Center for Engine and Transmission Assembly and Transfer Case Replacement

2006 and Prior Passenger Cars and Light Duty Trucks

2003-2006 HUMMER H2

2006 HUMMER H3

with Automatic or Manual Transmissions and/or Transfer Cases

This bulletin is being revised to add the 2006 model year and additional models and include manual transmissions. Please discard Corporate Bulletin Number 02-07-30-029E (Section 07 - Transmission/Transaxle).

To improve the quality of both OEM and Goodwrench® replacement engine, transfer case and transmission assemblies, the Product Quality Center (PQC) was implemented to assist dealers whenever an assembly requires replacement. The primary purpose of the PQC is to obtain faster and more accurate quality information on all replaced assemblies. This information will be used to improve the reliability of both OEM and Goodwrench® assemblies.

Included are all OEM assemblies replaced under warranty and policy, service assemblies (B and N claims) and over the counter assembly replacements beginning with repair orders written on July 1, 2002 for engines and automatic transmissions, repair orders written on January 20, 2003 for transfer cases and repair orders written on October 5, 2005 for manual transmissions. Dealer empowerment regarding policy adjustments remains in effect, however, the need to replace an engine, transfer case or transmission must be reviewed with the PQC. Assemblies replaced under a GMPP extended service contract are not included. Dealers should continue to contact GMPP in these cases. When servicing engines and transmissions covered under an exchange program, contact TAC as described in the Exchange Bulletin.

Prior to replacing an assembly, dealers will need to call the PQC at 1-866-654-7654. The Center will be available Monday through Friday from 8:00 am to 5:00 p.m. in each time zone in the continental U.S. (in Canada, Eastern to Pacific Time). Prior to calling, please refer to the engine, transfer case or transmission template found at the end of this bulletin. The PQC will follow these templates in order to acquire information for GM use during assembly teardowns and root cause determination. Use of the templates will minimize the time spent on the telephone and avoid the need of a second call to the PQC. Copy the templates as required.

Refer to Corporate Bulletin Number 02-06-01-026 and 02-07-30-028 for engine and transmission unit number locations.

Any of these assemblies sold "over the counter" and then considered for an assembly replacement MUST have the unit serial number attached to be considered by the PQC. If an assembly is returned without a legible serial number, dealers will need to contact their Area Service Manager (AVM) (in Canada, the District Service Manager (DSM)) who will determine if the assembly is the same unit sold over the counter. Dealers are encouraged to record the unit serial number on the original counter sales invoice.

If normal engine, transfer case or transmission diagnostic assistance is needed, dealers should still call the GM Technical Assistance Center. The PQC should only be called when an assembly is needed. In the case of an over the counter replacement, the dealer will be expected to obtain as much failure information as possible before the PQC will approve a replacement. This may include involving the purchaser in the call along with a representative of the dealership. Dealers should not provide the phone number to purchasers.

The PQC will review the diagnosis, offer additional direction, and when needed, authorize replacement of the assembly. The PQC will also pre-authorize the warranty claim. Dealers will need to provide the total claim expense, including a breakdown of the assembly cost and parts mark-up, labor cost (hours X warranty labor rate) with any additional hours. The Center can authorize a reasonable and customary amount of additional time to disassemble and reassemble the unit in order to determine if an assembly is required.

In many cases, the technician may not have all the necessary claim information during the initial call. In these instances, the assembly will be authorized and the technician provided with a case number. A second call will be needed at a later time to pre-authorize the claim which can be made by the Warranty Administrator once the claim information has been collected.

There may be situations where the assembly can be repaired but due to customer satisfaction reasons, an assembly replacement should be considered. In these cases, the dealer should still contact the PQC for assistance.

If an assembly needs to be replaced and the PQC is not available (after hours, on the weekend), dealers should use their own discretion, including a repair vs. replace analysis. On the next business day, please call the PQC with all the required information (refer to the templates) and the claim will be pre-approved.

The following five labor operation numbers will require either pre-approval from the Call Center or approval from the AVM/DSM:

- K7000 -- transmission assembly replacement
- J1820, J1840 and J1880 -- engine assembly replacements
- K4410 -- transfer case assembly replacement
- K2720 -- transmission/transaxle assembly replacement (manual)

Dealer authorization will not approve these labor operation numbers.

When returning a core assembly, a readable copy of the repair order and completed feedback form shipped with the new assembly must be attached to the shipping container per the instructions supplied with the new assembly. Refer to Corporate Bulletin Number 01-07-30-029 for transmission return information. **DEALERS MUST RETAIN ALL ENGINE, TRANSFER CASE AND TRANSMISSION CORES UNTIL EITHER THE CLAIM IS PAID OR THE WARRANTY PARTS CENTER HAS SENT A REQUEST FOR THAT CORE.**

[PQC Call Process](#)

1. If dealer diagnosis indicates a need for either an engine, transfer case or transmission replacement, then complete the appropriate engine, transfer case or transmission call template in this bulletin. Accurate repair and replace estimates are essential to eliminating a second PQC contact.
2. Call the PQC at 1-866-654-7654 prior to replacing the assembly.
 - If assembly replacement is NOT authorized, then proceed with repair of the assembly. If agreement on repairs cannot be reached, contact your AVM (in Canada, DSM) for a final review of the case.
 - If assembly replacement is approved, then proceed with the replacement and ATTACH the call template to the repair order.
3. When the repair order is closed, compare the warranty claim line total to the replace cost estimate on the call template (Engine = line 11, Transfer Case = line 12, Transmission = line 13). If the final claim amount does NOT exceed \$50.00 more than the estimate, then submit the claim. If the

claim amount DOES exceed \$50.00 more than the estimate, then continue with Step 4.

4. Complete the last section of the call template and contact the PQC either by phone at 1-866-654-7654 or fax at 1-866-207-3109 making sure that the PQC case number field is filled in. If faxing, DO NOT SUBMIT THE CLAIM FOR A MINIMUM OF 24 HOURS as it will reject until the PQC adjusts the preapproved amount. If the PQC is unable to approve the difference, they will contact the dealer as indicated on the fax.

OEM Engine Replacement Template--Product Quality Call Center

Is the engine under warranty?

Yes (if yes, list date of warranty expiration)

No

Mileage:

Date of engine installation and warranty expiration:

1

Is this a Policy Adjustment?

Yes (if yes, please record the reason)

No

2

Which type of service is the vehicle used for -- police, taxi, towing, personal, etc.)?

3 Describe the failure of the current engine:

4 Engine serial number: _____

For PQC only: Enter the Engine Serial Number of the non-keyword qualifier line.

5 Estimated cost to REPAIR engine assembly \$ _____

6 Estimated cost to REPLACE engine assembly \$ _____

7 If analysis warrants repair, does the dealer have a qualified technician?

Yes

No

IF NO, AUTHORIZE UNIT WITH DC06.

8 PQC Comments:

Goodwrench® Engine Replacement Template--Product Quality Call Center

Is the engine under warranty?

Yes (if yes, list date of warranty expiration)

No

Mileage:

Date of engine installation and warranty expiration:

1

Is this a Policy Adjustment?

Yes (if yes, please record the reason)

No

2 Which type of service is the vehicle used for -- police, taxi, towing, personal, etc.)?

3 Was engine dealer installed or an over-the-parts-counter sales?

Describe the exact failure condition of the original engine (OEM, previous Goodwrench®, etc. Multiple engine replacements should be documented):

4

5	Describe the failure of the current engine:
6	Shipping damage?
7	Were there any missing components:
8	Number of kilometers/miles since the current engine was installed:
9	What was the date when the current engine was replaced?
10	What method of engine oil priming was used on the current engine?

Goodwrench® part number: _____

Engine serial number: _____

Site code: _____

For PQC only: Enter the Engine Serial Number of the non-keyword qualifier line.

11
12 Estimated cost to REPAIR engine assembly \$ _____

13 Estimated cost to REPLACE engine assembly \$ _____

If analysis warrants repair, does the dealer have a qualified technician?

Yes

No

IF NO, AUTHORIZE UNIT WITH DC06.

PQC Comments:

14
15

OEM Automatic Transmission Replacement Template--Product Quality Call Center

Is the automatic transmission under warranty?

Yes (if yes, list date of warranty expiration)

No

Mileage:

Date of automatic transmission installation and warranty expiration:

1
Is this a Policy Adjustment?

Yes (if yes, please record the reason)

No

2 Which type of service is the vehicle used for -- police, taxi, towing, personal, etc.)?

3 Describe the failure of the current automatic transmission:

4 Automatic transmission serial number:

For PQC only: Enter the Automatic Transmission Serial Number of the non-keyword qualifier line.

5 Estimated cost to REPAIR automatic transmission assembly \$ _____

6 Estimated cost to REPLACE automatic transmission assembly \$ _____

If analysis warrants repair, does the dealer have a qualified technician?

7 Yes

No

IF NO, AUTHORIZE UNIT WITH DC06.

PQC Comments:

8

Goodwrench® Automatic Transmission Replacement Template--Product Quality Call Center

Is the automatic transmission under warranty?

Yes (if yes, list date of warranty expiration)

No

Mileage:

Date of automatic transmission installation and warranty expiration:

1

Is this a Policy Adjustment?

Yes (if yes, please record the reason)

No

2 Which type of service is the vehicle used for -- police, taxi, towing, personal, etc.)?

3 Was automatic transmission dealer installed or an over-the-parts-counter sales?

Describe the exact failure condition of the original automatic transmission (OEM, previous Goodwrench®, etc. Multiple automatic transmission replacements should be documented):

4

Describe the failure of the current automatic transmission:

5

Shipping damage?

6

Were there any missing components:

7

8	Number of kilometers/miles since the current automatic transmission was installed:
9	Date when the current unit was installed:
10	GREEN TAG INFORMATION = ALL INFORMATION ON GREEN TAG FROM TOP TO BOTTOM AND LEFT TO RIGHT Automatic transmission serial number: <hr/> For PQC only: Enter the Automatic Transmission Serial Number of the non-keyword qualifier line.
11	If applicable, describe the method used to clean and flush the oil cooler and lines when the unit was installed.
12	Estimated cost to REPAIR automatic transmission assembly \$_____
13	Estimated cost to REPLACE automatic transmission assembly \$_____
14	If analysis warrants repair, does the dealer have a qualified technician? Yes No IF NO, AUTHORIZE UNIT WITH DC06.

15	PQC Comments:
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Manual Transmission Replacement Template--Product Quality Call Center

1	Caller's full name and position:
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2	<p>Number of times in for the same condition:</p> <p>Number of days vehicle in dealership for same condition:</p> <p>Is the vehicle modified/non-production accessories (List below):</p> <p>YES</p> <p>NO</p>
---	--

OEM _____

3

GOODWRENCH _____

Is this the first Goodwrench transmission that has failed in this vehicle:

YES

NO

If NO, how many Goodwrench transmissions have failed in this vehicle?

Were any of these units Out of Box failures?

4

YES

NO

If YES, how many?

If YES, has TAC been involved to confirm replacement is necessary?

YES

NO

Is the transmission under warranty?

YES

NO

5

Mileage:

Warranty expiration date:

What type of service is the vehicle being used in? (police, taxi, towing, personal, etc.)

6

Is the vehicle used off-road/construction site?

YES

NO

Customer complaint:

7

Describe the failure of the current transmission and description/part numbers for all parts in REPAIR ESTIMATE over \$150.00:

8

Is there evidence of abuse or improper maintenance?

YES

NO

If YES, document below:

9

Was the fluid level correct?

10 YES

NO

OEM Serial # (VIS): _____

11

GOODWRENCH

Green tag information (code # and serial #):

Miles/kilometers since the current GOODWRENCH transmission was installed:

Date when current GOODWRENCH transmission was installed:

Did the customer pay any portion when this GOODWRENCH transmission was installed?

YES

NO

If YES, 3/50. If NO, 12/12)

Enter the Serial Number on the non-keyword qualifier line with brackets

Were the cooler and lines flushed (mandatory on SRTAs / note flush code at time of install)?

YES

NO

Please return a fluid sample (approx 6-8 oz) in an appropriate container with the transmission.

Repair cost = \$ _____

Replace cost = \$ _____

(include parts & labor)

If analysis warrants repair, does the dealer have a qualified technician?

YES

NO

If NO, authorize unit with DC06

PQC Comments:

OEM Transfer Case Replacement Template--Product Quality Call Center

Is the transfer case under warranty?

Yes (if yes, list date of warranty expiration)

No

Mileage:

Date of transfer case installation and warranty expiration:

1 Is this a Policy Adjustment?

Yes (if yes, please record the reason)

No

Transfer case RPO code: _____

2 Which type of service is the vehicle used for -- police, taxi, towing, personal, etc.)?

Describe the failure of the current transfer case:

3

Paper Tag Information Under Bar Code:

For PQC only: Enter tag information on the non-keyword qualifier line

NVG - Transfer Case Metal Tag Information

1. Model Number: _____
2. Assembly Number: _____
3. Serial Number: _____
4. Ratio: _____

BW - Transfer Case Paper Tag Information

1. Model Number: _____
2. Manufacturer: Borg Warner Inc.
3. Part Number: _____
4. Serial Number: _____

5 Estimated cost to REPAIR transfer case assembly \$ _____

6 Estimated cost to REPLACE transfer case assembly \$ _____

If analysis warrants repair, does the dealer have a qualified technician?

Yes

No

IF NO, AUTHORIZE UNIT WITH DC06.

PQC Comments:

Goodwrench® Transfer Case Replacement Template--Product Quality Call Center

Is the transfer case under warranty?

Yes (if yes, list date of warranty expiration)

No

Mileage:

Date of transfer case installation and warranty expiration:

1 Is this a Policy Adjustment?

Yes (if yes, please record the reason)

No

Transfer case RPO code: _____

2 Which type of service is the vehicle used for -- police, taxi, towing, personal, etc.)?

3 Was transfer case dealer installed or an over-the-parts-counter sales?

Describe the exact failure condition of the original transfer case (OEM, previous Goodwrench®, etc. Multiple transfer case replacements should be documented):

4

5	Describe the failure of the current transfer case:
6	Shipping damage?
7	Were there any missing components:
8	Number of kilometers/miles since the current transfer case was installed:
9	Date when the current unit was installed?
10	Transfer case serial number: _____ For PQC only: Enter the Transfer Case Serial Number of the non-keyword qualifier line.

11	If applicable, describe the method used to clean and flush the oil cooler and lines when the unit was installed.
12	Estimated cost to REPAIR transfer case assembly \$_____
13	Estimated cost to REPLACE transfer case assembly \$_____
14	If analysis warrants repair, does the dealer have a qualified technician? Yes No IF NO, AUTHORIZE UNIT WITH DC06.
15	PQC Comments:

[Symptom Templates](#)

Engine Symptom Template--Product Quality Call Center

Leaks

What kind of leak is experienced: Engine oil or coolant?

1 Where is the leak located?

Noise

What kind?

Where is it?

At what frequency?

2 When does it occur?

How long does it last?

At what temperature does it occur?

Lubrication

Please provide the oil pressure readings:

Oil consumption (results of oil consumption test):

Is there oil contamination?

Performance Concern

Please describe in the appropriate field listed below.

Low power?

Misfire?

Detonation?

4

Blue smoke?

White smoke?

Will not crank?

Vibration?

Other Engine Related Concerns

Did the engine show evidence of the following?

Overheating?

DTCs in the PCM/VCM?

5

Coolant consumption?

Coolant contamination?

Low compression (please provide the readings)?

Automatic Transmission Symptom Template--Product Quality Call Center

List the diagnostic steps performed by the dealer to root cause the complaint:

1

If applicable, list the pump pressure test results per the Service Manual test procedure.

2

List DTCs, if applicable:

3

Leaks

Where is the leak located?

4

How was the leak location diagnosed (dye, tracking powder, no aid, etc.)?

What color is the fluid?

Noise

What kind?

Where is it?

What gear ranges?

5

How long does it last?

At what vehicle operating temperature does it occur?

At what outside air temperature does it occur?

At what road speed (kph/mph) does it occur?

Garage Shifts

Park to drive

6

Park to reverse

TCC Apply

Early?

None?

7

No release?

Shudder?

Harsh?

Shifts

Does not occur?

Delayed?

Harsh?

8

Slips?

Shudder?

Busy?

Manual Transmission Symptom Template--Product Quality Call Center

Was the transmission disassembled for inspection?

1 YES

NO

List the diagnostic steps performed by the dealer to root cause the complaint:

2

List DTCs, if applicable:

3

Leaks

Where is the leak located?

How was the leak location diagnosed?

4 What color is the fluid?

Is the case porous?

If a rear seal leak, what is the condition of the prop shaft slip yoke?

Noise and Vibration (during road test please note the following)

What kind?

Where is it?

What gear(s)?

What is the RPM range?

At what road speed (kph/mph) does it occur?

5

What is the clutch pedal position when it occurs (up/down/both)?

What is the gas pedal position when it occurs (drive/coast/both)?

Engine operating temperature (hot/normal/cold)?

At what outside air temperature does it occur?

Shifts

If *shifter* complaint: has shifter adjustment been checked per Service Manual procedure, if applicable?

Does not engage?

High clutch pedal effort?

Slips?

Shudder?

6 Clash/Grind?

Buzz?

Notchy?

With the engine at idle, can the manual transmission be shifted into all gears without high effort, with the clutch pedal down?

When the clutch pedal is depressed (down) is disengagement high, low or normal?

Transfer Case Symptom Template--Product Quality Call Center

List the diagnostic steps performed by the dealer to root cause the complaint:

1

List DTCs, if applicable:

2

Leaks

Dye used to locate the leak?

3

Yes

No

Where is the leak located?

Noise

Describe the noise

Where is the location of the noise?

Is the fluid level correct?

Yes

No

Condition of the fluid?

Discolored?

Metal contamination?

Was Corporate Bulletin Number 01-04-18-001 reviewed for AWD and 4WD systems?

Yes

No (if no, refer to bulletin)

Were all tires checked for the following?

Same size and brand?

Yes

No

Uneven wear?

Yes

No

Rolling circumference?

Yes

No

4 Proper inflation?

Yes

No

Were chassis ears and a vacuum hose used to determine the location of the noise?

Yes

No (if no, please re-evaluate using both chassis ears and a vacuum hose.)

Is the noise still evident with either propshaft removed?

Yes

No

Notice: Do not road test with either propshaft removed for vehicles equipped with NVG149, BW4473, BW4481, BW4482 or BW4484 as damage will occur.

What range does the noise occur?

2HI

4HI

4LO

AUTO

Neutral

What driving condition does it occur?

Accel

Decel

Steady load

Stationary

How long does the noise last?

At what temperature does the noise occur?

Shifts

If applicable, is there a bind condition at the selector shaft with the encoder motor or shift linkage removed?

Yes

No

If yes, which range does the bind occur?

5 2HI

4HI

4LO

List the failed components:

GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.



WE SUPPORT
VOLUNTARY
TECHNICIAN
CERTIFICATION

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Document ID# 1709018
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