

## Fastener Tightening Specifications

| Application                                                   | Ref No. | Quantity | Size         | Specification |           |
|---------------------------------------------------------------|---------|----------|--------------|---------------|-----------|
|                                                               |         |          |              | Metric        | English   |
| A/Trans Control Bolt                                          | --      | --       | --           | 8 N·m         | 71 lb in  |
| A/Trans Flex Plate Bolt                                       | --      | --       | --           | 60 N·m        | 45 lb ft  |
| A/Trans Fluid Pump Bolt to Converter Housing                  |         |          |              |               |           |
| └ First Pass                                                  | 200     | 8        | M8x33        | 10 N·m        | 89 lb in  |
| └ Final Pass                                                  | 200     | 8        | M8x33        | 45°           |           |
| A/Trans Fluid Pump Cover Bolt                                 | 302     | 23       | M6x25        | 12 N·m        | 106 lb in |
| Control Solenoid Valve Assembly (w/TCM and Body) to Case Bolt | 4       | 12       | M6x97        | 10 N·m        | 89 lb in  |
| Control Solenoid Valve Assembly (w/TCM and Body) to Case Bolt | 6       | 3        | M5x40.5      | 7 N·m         | 62 lb in  |
| Control Valve Body Assembly (Complete) Bolt                   | 400     | 1        | M5x40.5      | 7 N·m         | 62 lb in  |
| Control Valve Body to Case Bolt                               | 9       | 2        | M6x53        | 11 N·m        | 97 lb in  |
| Control Valve Body to Case Bolt                               | 10      | 9        | M6x60        | 11 N·m        | 97 lb in  |
| Control Valve Body Cover Bolt                                 | 1       | 13       | M6x30        | 12 N·m        | 106 lb in |
| Drain Plug                                                    | 64      | 1        | 1/8"-27 NPTF | 12 N·m        | 106 lb in |
| Fluid Level Hole Plug                                         | 63      | 1        | 1/8"-27 NPTF | 12 N·m        | 106 lb in |
| Fluid Pressure Test Hole Plug                                 | 51      | 1        | 1/8"-27 NPTF | 12 N·m        | 106 lb in |
| Front Differential Carrier Baffle Bolt - Converter Housing    | 204     | 2        | M6x25        | 12 N·m        | 106 lb in |
| Front Differential Carrier Baffle Bolt - Case                 | 61      | 2        | M6x16        | 12 N·m        | 106 lb in |
| Input Shaft Support Bolt                                      | 57      | 3        | M6x50        | 12 N·m        | 106 lb in |
| Input Speed Sensor Bolt                                       | 21      | 1        | M6x23        | 12 N·m        | 106 lb in |
| Manual Shift Detent Spring                                    | 17      | 1        | M6x16        | 12 N·m        | 106 lb in |
| Output Speed Sensor Bolt                                      | 15      | 1        | M6x18        | 12 N·m        | 106 lb in |
| Torque Converter and Differential Housing Bolt                |         |          |              |               |           |
| └ First Pass                                                  | 27      | 15       | M8x30        | 10 N·m        | 89 lb in  |
| └ Final Pass                                                  | 27      | 15       | M8x30        | 50°           | --        |
| Torque Converter to Flywheel Bolt                             | --      | --       | --           | 60 N·m        | 45 lb ft  |
| Transmission Bolt (1, 2, 3) - 6T40                            | --      | --       | --           | 75 N·m        | 56 lb ft  |
| Transmission Bolt (4, 5) - 6T40                               | --      | --       | --           | 50 N·m        | 37 lb ft  |
| Transmission Bolt (1, 2, 3, 4) - 6T45                         | --      | --       | --           | 75 N·m        | 56 lb ft  |
| Transmission Bolt (5) - 6T45                                  | --      | --       | --           | 50 N·m        | 37 lb ft  |

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|                                                                                |    |    |    |                 |          |
|--------------------------------------------------------------------------------|----|----|----|-----------------|----------|
| Transmission Bracket Mount to Mount Through Bolt                               | -- | -- | -- | 100 N·m         | 74 lb ft |
| Transmission Fluid Cooler Outlet Pipe Nut                                      | -- | -- | -- | 22 N·m          | 17 lb ft |
| Transmission Fluid Cooler Pipe Inlet Nut                                       | -- | -- | -- | 22 N·m          | 17 lb ft |
| Transmission Mount Bolt                                                        | -- | -- | -- | 62 N·m          | 46 lb ft |
| Transmission Mount Bolt - Left Side to Body                                    | -- | -- | -- | 62 N·m          | 46 lb ft |
| Transmission Mount Bolt - Left Side to Transmission                            | -- | -- | -- | 50 N·m + 60-75° | 37 lb ft |
| Transmission Mount Nut - Left Side to Body                                     | -- | -- | -- | 62 N·m          | 46 lb ft |
| Transmission Mount Through Bolt                                                | -- | -- | -- | 62 N·m          | 46 lb ft |
| Transmission Mount to Frame Bolt                                               | -- | -- | -- | --              | --       |
| Transmission Mount to Transmission Bolt                                        | -- | -- | -- | 100 N·m         | 74 lb ft |
| Transmission Range Selector Cable Bracket Bolt                                 | -- | -- | -- | 18 N·m          | 14 lb ft |
| Transmission Range Selector Lever Nut                                          | -- | -- | -- | 20 N·m          | 15 lb ft |
| *Reference number refers to the component callout number in Disassembled Views |    |    |    |                 |          |

## Transmission General Specifications

| Name                                                         | 6T40 / 6T45                                             |
|--------------------------------------------------------------|---------------------------------------------------------|
| RPO Codes                                                    | MH8, MH7                                                |
| Production Location                                          | Korea/China                                             |
| Transmission Drive                                           | Front Wheel Drive                                       |
| Reverse Gear Ratio                                           | 2.94                                                    |
| 1st Gear Ratio                                               | 4.584                                                   |
| 2nd Gear Ratio                                               | 2.964                                                   |
| 3rd Gear Ratio                                               | 1.912                                                   |
| 4th Gear Ratio                                               | 1.446                                                   |
| 5th Gear Ratio                                               | 1.000                                                   |
| 6th Gear Ratio                                               | 0.746                                                   |
| Effective Final Drive Gear Ratio                             | 2.89/3.17/3.87                                          |
| Torque Converter Size - Diameter of Torque Converter Turbine | 236 mm                                                  |
| Pressure Taps Line                                           | Pressure                                                |
| Transmission Fluid Type                                      | DEXRON VI®                                              |
| Transmission Fluid Capacity                                  | 8.0 L/8.5 qts Quarts                                    |
| Transmission Type: 6                                         | Six Forward Gears                                       |
| Transmission Type: T                                         | Transverse Mount                                        |
| Transmission Type: 40/45                                     | Product Series                                          |
| Position Quadrant                                            | P, R, N, D, * *(Refer to the applicable owner's manual) |
| Case Material                                                | Die Cast Aluminum                                       |
| Transmission Net Weight                                      | 81/85 kg (178/187 lbs)                                  |
| Maximum Trailer Towing Capacity                              | N/A                                                     |
| Maximum Gross Vehicle Weight (GVW)                           | 2100 kg (4,630 lbs)                                     |

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[Specifications](#) | **Document ID: 1905750**

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## Fluid Capacity Specifications

| Application                                      | Specification  |                 |
|--------------------------------------------------|----------------|-----------------|
|                                                  | Metric         | English         |
| Valve Body Cover Removal - Approximate Capacity  | 5.0-7.0 liters | 5.3-7.4 quarts  |
| Fluid Change - Drain Plug - Approximate Capacity | 4.0-6.0 liters | 4.2- 6.3 quarts |
| Overhaul - Approximate Capacity                  | 8.0-8.5 liters | 8.5-9.0 quarts  |

## Fluid Pump Selective Specifications

| Fluid Pump Body Pocket Depth |                  | Fluid Pump Gear Thickness |                  |
|------------------------------|------------------|---------------------------|------------------|
| Metric                       | English          | Metric                    | English          |
| 12.617-12.625 mm             | 0.4967-0.4970 in | 12.580-12.588 mm          | 0.4952-0.4955 in |
| 12.626-12.636 mm             | 0.4970-0.4974 in | 12.589-12.599 mm          | 0.4956-0.4960 in |
| 12.637-12.645 mm             | 0.4975-0.4978 in | 12.600-12.608 mm          | 0.4960-0.4963 in |

## Range Reference

**Range Reference Table**

| Range                     | Park     | Reverse | Neutral  | Drive       |         |         |         |         |         |    |
|---------------------------|----------|---------|----------|-------------|---------|---------|---------|---------|---------|----|
|                           |          |         |          | 1st Braking | 1st     | 2nd     | 3rd     | 4th     | 5th     |    |
| 1-2-3-4 Clutch            | --       | --      | --       | Applied     | Applied | Applied | Applied | Applied | --      | -- |
| 3-5 Reverse Clutch        | --       | Applied | --       | --          | --      | --      | Applied | --      | Applied | -- |
| 4-5-6 Clutch              | --       | --      | --       | --          | --      | --      | --      | Applied | Applied | Ap |
| 2-6 Clutch                | --       | --      | --       | --          | --      | Applied | --      | --      | --      | Ap |
| Low and Reverse Clutch    | Applied* | Applied | Applied* | Applied     | --      | --      | --      | --      | --      | -- |
| Low Clutch Assembly (OWL) | --       | --      | --       | Holding     | Holding | --      | --      | --      | --      | -- |
| * = Applied with NO load  |          |         |          |             |         |         |         |         |         |    |

## Shift Solenoid Valve State and Gear Ratio

| Gear                                                                                                       | Shift SOL 1 | 1-2-3-4 CL PC SOL 5 N.L. | 2-6 CL PC SOL 4 N.L. | 3-5 REV CL PC SOL 2 N.H. | LOW REV 4-5-6 CL PC SOL 3 N.H. | Gear Ratio |
|------------------------------------------------------------------------------------------------------------|-------------|--------------------------|----------------------|--------------------------|--------------------------------|------------|
| Park                                                                                                       | ON          | OFF                      | OFF                  | OFF                      | ON                             | --         |
| Reverse                                                                                                    | ON          | OFF                      | OFF                  | ON                       | ON                             | 2.940      |
| Neutral                                                                                                    | ON          | OFF                      | OFF                  | OFF                      | ON                             | --         |
| 1st Braking                                                                                                | ON          | ON                       | OFF                  | OFF                      | ON                             | 4.584      |
| 1st                                                                                                        | OFF         | ON                       | OFF                  | OFF                      | OFF                            | 4.584      |
| 2nd                                                                                                        | OFF         | ON                       | ON                   | OFF                      | OFF                            | 2.964      |
| 3rd                                                                                                        | OFF         | ON                       | OFF                  | ON                       | OFF                            | 1.912      |
| 4th                                                                                                        | OFF         | ON                       | OFF                  | OFF                      | ON                             | 1.446      |
| 5th                                                                                                        | OFF         | OFF                      | OFF                  | ON                       | ON                             | 1.000      |
| 6th                                                                                                        | OFF         | OFF                      | ON                   | OFF                      | ON                             | 0.746      |
| Effective Final Drive Ratio - 6T40/45 - 3.17/3.87                                                          |             |                          |                      |                          |                                |            |
| For shift solenoid 1, "ON" = Solenoid Energized (Pressurized) "OFF" = Solenoid De-energized (No Pressure). |             |                          |                      |                          |                                |            |
| For pressure control solenoids, "ON" = Pressurized, "OFF" = No Pressure                                    |             |                          |                      |                          |                                |            |

## Transmission Internal Mode Switch Logic

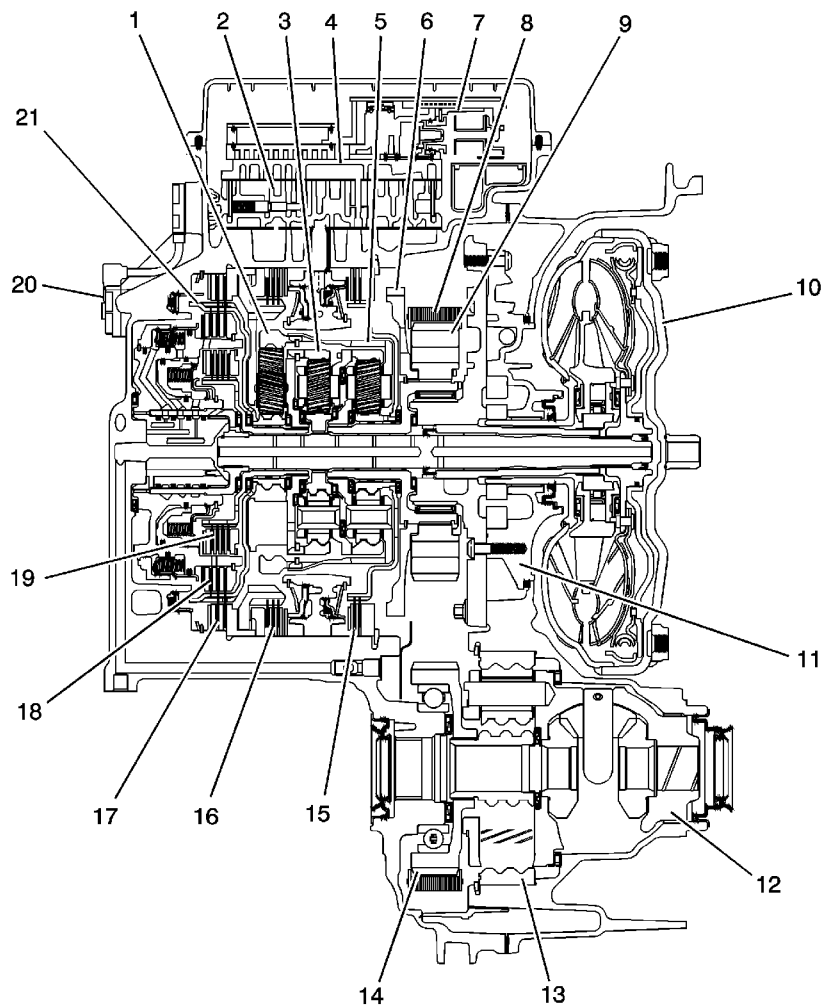
| Gear Selector Position                     | Signal A | Signal B | Signal C | Signal P |
|--------------------------------------------|----------|----------|----------|----------|
| Park                                       | LOW      | HI       | HI       | LOW      |
| Park/Reverse                               | LOW      | LOW      | HI       | LOW      |
| Reverse                                    | LOW      | LOW      | HI       | HI       |
| Reverse/Neutral                            | HI       | LOW      | HI       | HI       |
| Neutral                                    | HI       | LOW      | HI       | LOW      |
| Neutral/Drive 6                            | HI       | LOW      | LOW      | LOW      |
| Drive 6                                    | HI       | LOW      | LOW      | HI       |
| Drive 6/Drive 4                            | LOW      | LOW      | LOW      | HI       |
| Drive 4                                    | LOW      | LOW      | LOW      | LOW      |
| Drive 4/Drive 3                            | LOW      | HI       | LOW      | LOW      |
| Drive 3                                    | LOW      | HI       | LOW      | HI       |
| Drive 3/Drive 2                            | HI       | HI       | LOW      | HI       |
| Drive 2                                    | HI       | HI       | LOW      | LOW      |
| Open                                       | HI       | HI       | HI       | HI       |
| Invalid                                    | HI       | HI       | HI       | LOW      |
| Invalid                                    | LOW      | HI       | HI       | HI       |
| HI = Ignition voltage<br><br>LOW = 0 volts |          |          |          |          |

## Solenoid Valve Pressure

### Line PC Solenoid Valve Pressure

| Requested Pressure (kPa) | Actual Pressure |             |
|--------------------------|-----------------|-------------|
|                          | Metric          | English     |
| None                     | 345-550 kPa     | 50-80 psi   |
| 200                      | 690-900 kPa     | 100-130 psi |
| 400                      | 1100-1310 kPa   | 160-190 psi |
| 600                      | 1520-1725 kPa   | 220-250 psi |
| 800                      | 1860-2275 kPa   | 270-330 psi |
| 1000                     | 1860-2275 kPa   | 270-330 psi |
| 1200                     | 1860-2275 kPa   | 270-330 psi |
| 1400                     | 1860-2275 kPa   | 270-330 psi |
| 1600                     | 1860-2275 kPa   | 270-330 psi |
| 1800                     | 1860-2275 kPa   | 270-330 psi |
| 2000                     | 1860-2275 kPa   | 270-330 psi |

## Component Location

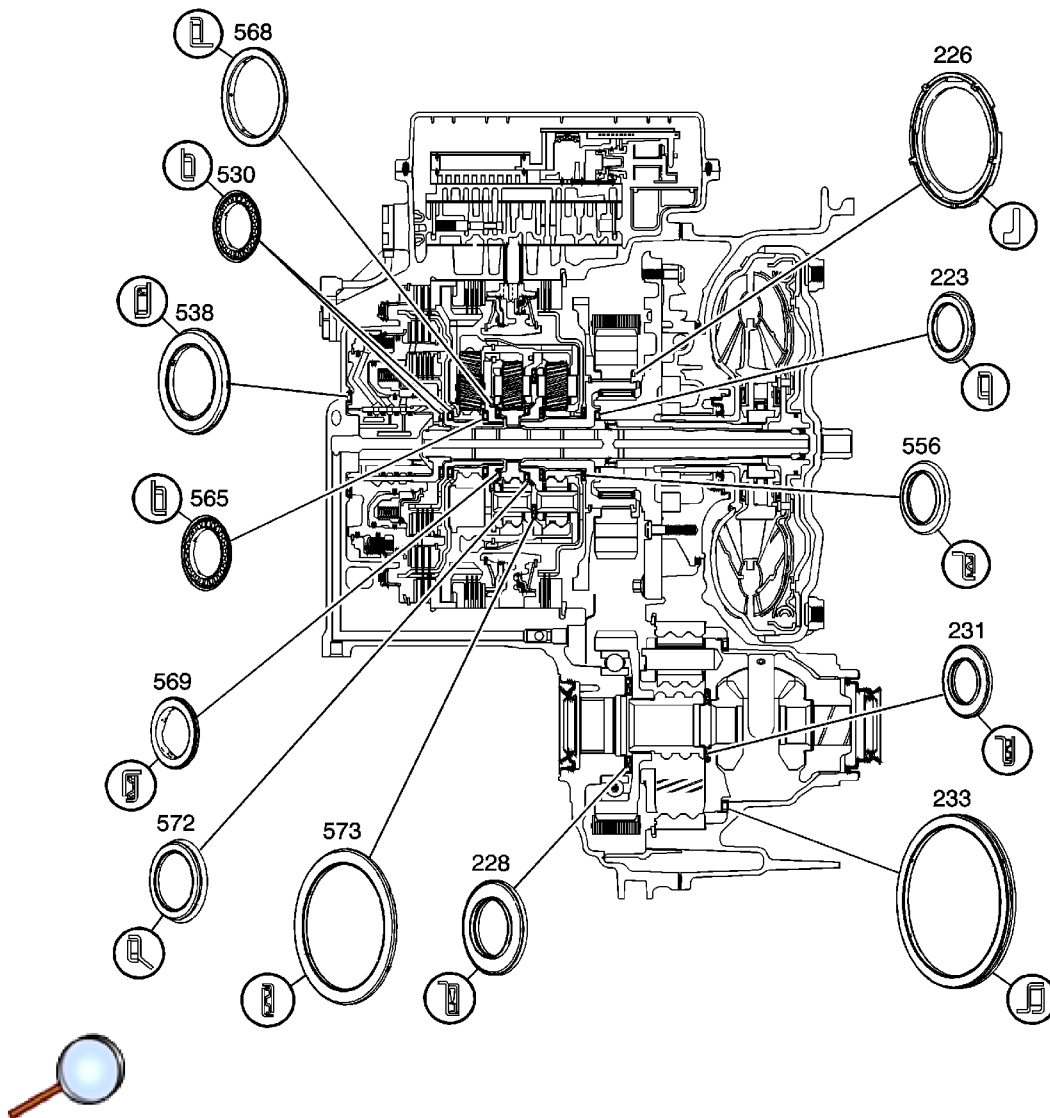


- (1) Reaction Carrier Assembly
- (2) Control Valve Body Assembly
- (3) Input Carrier Assembly
- (4) Valve Channel Plate
- (5) Output Carrier Assembly
- (6) Park Gear
- (7) Control Solenoid (w/Body and TCM) Valve Assembly
- (8) Drive Link Assembly
- (9) Drive Sprocket
- (10) Torque Converter Assembly
- (11) A/Trans Fluid Pump Assembly
- (12) Differential Carrier Assembly

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- (13) Front Differential Ring Gear
- (14) Driven Sprocket
- (15) 1-2-3-4 Clutch Assembly
- (16) Low and Reverse Clutch Assembly
- (17) 2-6 Clutch Assembly
- (18) 3-5 Reverse Clutch Assembly
- (19) 4-5-6 Clutch Assembly
- (20) A/Trans Input Speed Sensor Assembly
- (21) Reaction Sun Gear Assembly

## Bushing, Bearing, and Washer Locations

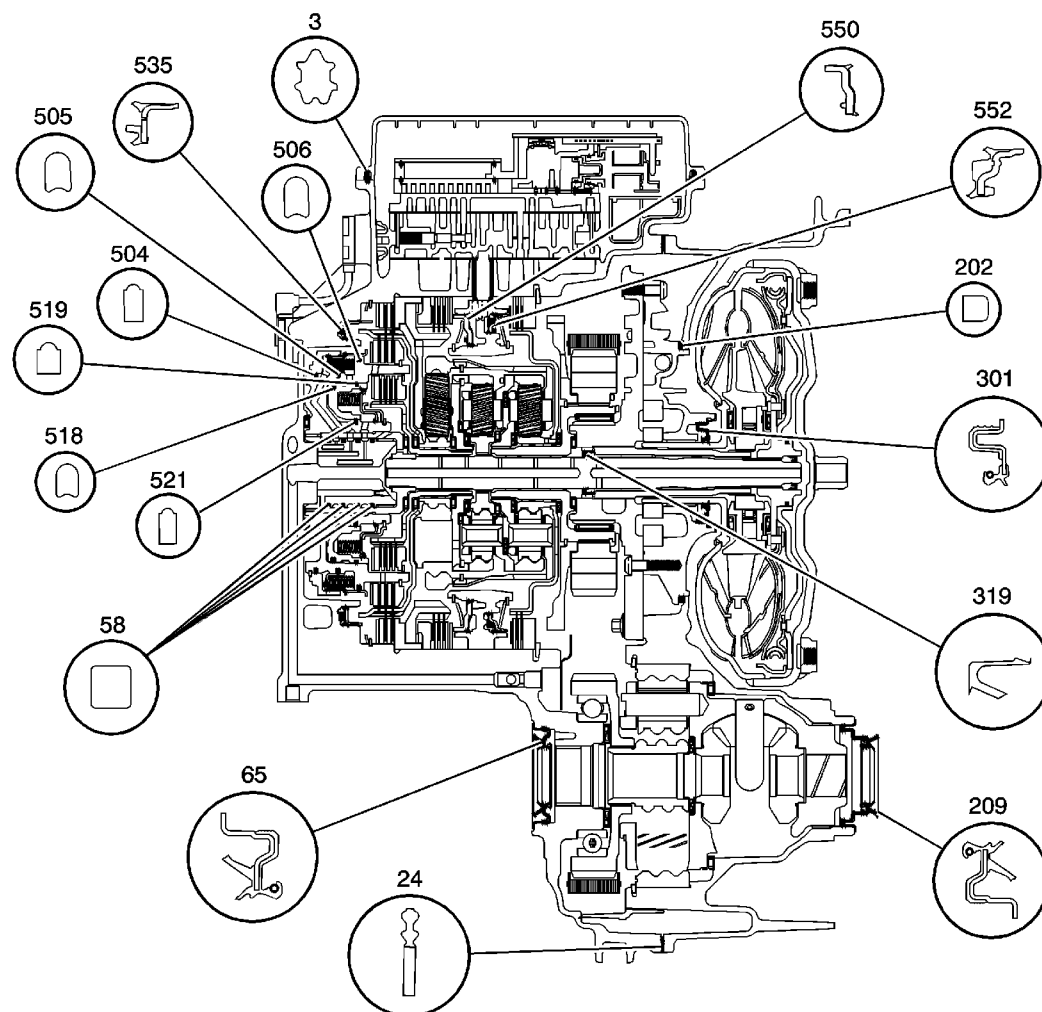


- (223) Drive Spocket Bearing Assembly
- (226) Drive Sprocket Thrust Washer
- (228) Drive Sprocket Bearing Assembly
- (231) Differential Sun Gear to Differential Housing Bearing Assembly
- (233) Front Differential Carrier Bearing Assembly
- (530) Reaction Carrier Hub Thrust Bearing Assembly
- (538) 3-5-Reverse and 4-5-6 Clutch Housing Thrust Bearing
- (556) Output Sun Thrust Bearing Assembly
- (565) Reaction Sun Gear Thrust Bearing Assembly
- (568) Input Carrier Thrust Bearing Assembly
- (569) Input Sun Gear Thrust Bearing Assembly
- (572) Input Sun Gear Thrust Bearing Assembly

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(573) Output Carrier Thrust Bearing Assembly

## Seal Locations (1 of 2)

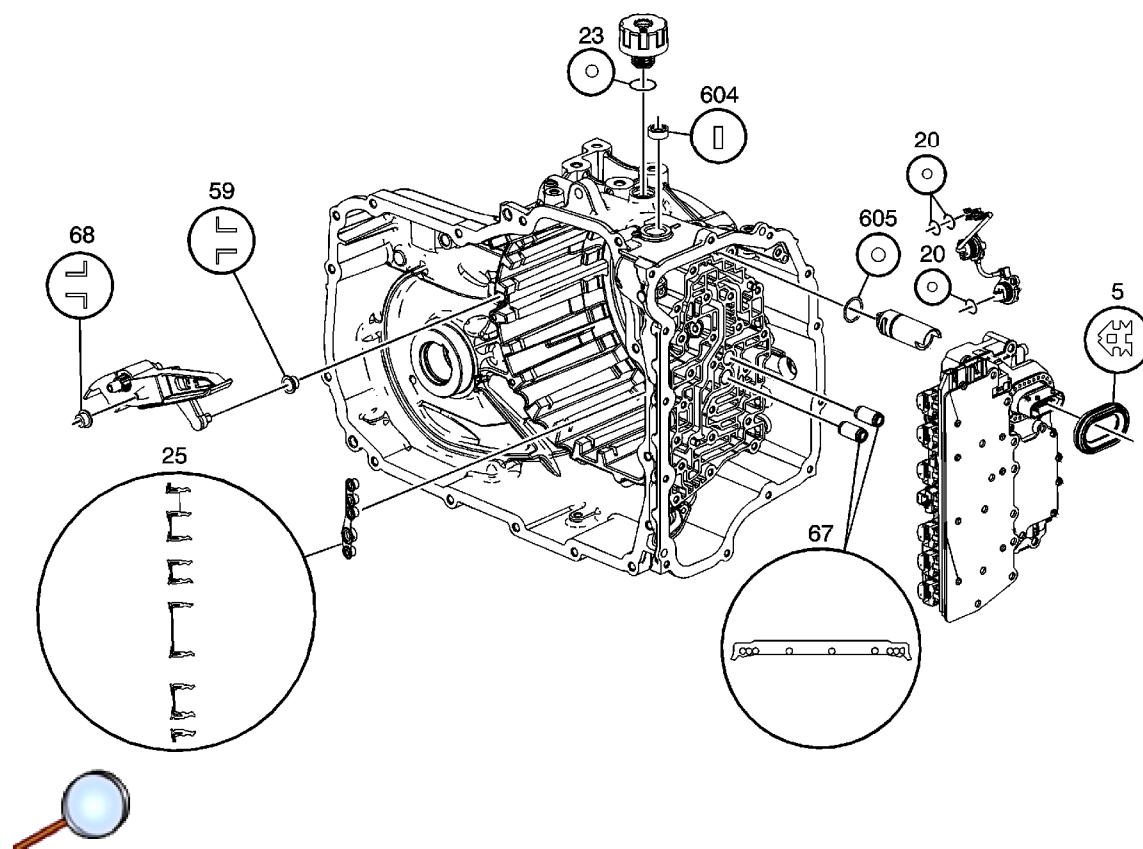


- (3) Control Valve Body Cover Gasket
- (5) Control Valve Body Cover Gasket
- (24) Torque Converter Housing Gasket
- (58) 3-5-Reverse and 4-5-6 Clutch Fluid Seal Ring
- (65) Drive Shaft Oil Seal Assembly
- (202) Torque Converter and Differential Housing Seal
- (209) Front Wheel Drive Shaft Oil Seal Assembly
- (301) Torque Converter Fluid Seal Assembly
- (319) Torque Converter Fluid Seal Assembly
- (504) 3-5-Reverse Clutch Piston Inner Seal
- (505) 3-5-Reverse Clutch Piston Inner Seal

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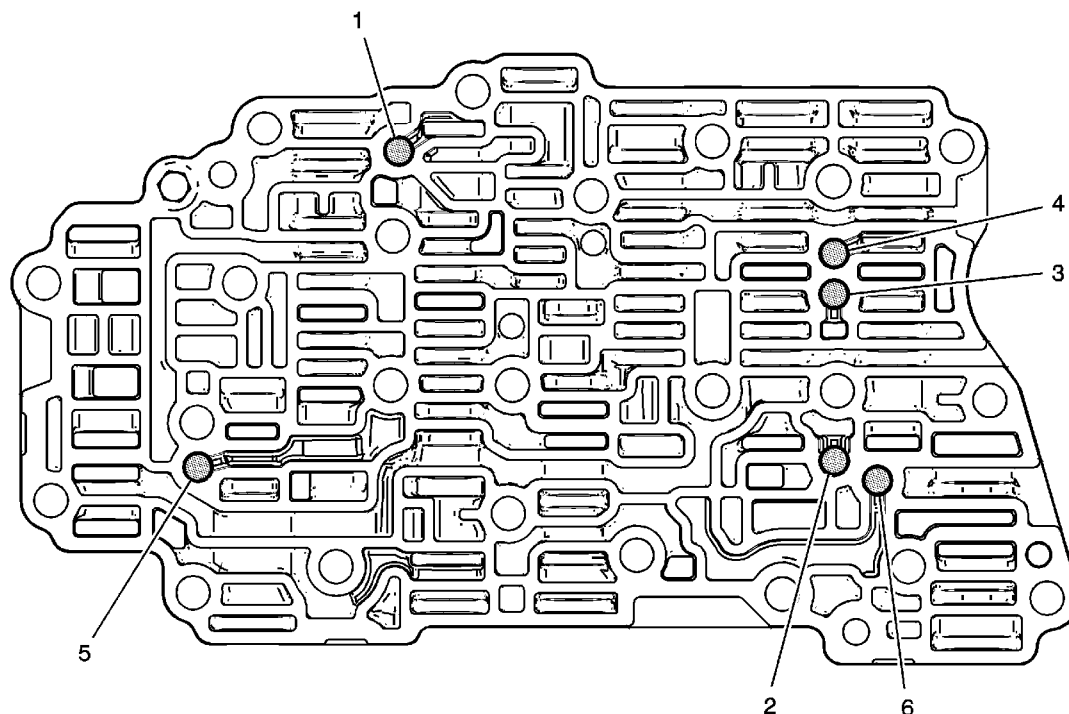
- (506) 3-5-Reverse Clutch Piston Dam Seal
- (518) 4-5-6 Clutch Piston Outer Seal
- (519) 4-5-6 Clutch Piston Outer Seal
- (521) 4-5-6 Clutch Piston Inner Seal
- (535) 2-6 Clutch Piston Assembly
- (550) Low and Reverse Clutch Piston
- (552) 1-2-3-4 Clutch Piston

## Seal Locations (2 of 2)



- (5) Control Valve Body Cover Hole Seal
- (20) A/Trans Input Speed Sensor Assembly O-Ring Seal
- (23) Fill Cap Seal
- (25) A/Trans Fluid Pump Seal Assembly
- (59) Drive Link Lube Fluid Seal
- (67) 1-2-3-4 and Low Reverse Clutch Fluid Passage
- (68) Drive Link Lube Fluid Seal
- (604) Manual Shift Shaft Seal
- (605) Park Pawl Actuator Guide Seal

## Ball Check Valve Locations



| I.D. | Input Oil           | Input Oil | Output Oil          |
|------|---------------------|-----------|---------------------|
| 1    | PS4                 | 456 CL FD | CSV2 Latch          |
| 2    | 35 Rev FD/Drive 1-6 | Drive 1-6 | 35 Rev FD           |
| 3    | 35 Rev FD           | --        | 35 Rev FD           |
| 4    | Comp FD             | 35 Rev FD | 35 Rev CL FD/Exh BF |
| 5    | Act FD LM           | --        | R1/456 CL FD        |
| 6    | Act FD LM           | --        | 35 Rev CL           |