1982 - 1991 Corvette: Service Bulletin: 3-4 Clutch / 2-4 Band Service Information

Subject: 3-4 Clutch / 2-4 Band Service Information
Model and Year: 1982-91 Caprice, Camaro and Corvette and 1982-91 All Trucks with 4L60 Automatic Transmission
Source: Chevrolet Dealer Service Bulletin
Bulletin No: 91-399-7A
Section: 7A
Date: August 1991

CHEVROLET

Geo

CHEVROLET MOTOR DIVISION
General Motors Corporation
Technical Service Department

Dealer Service Bulletin

Number:	91-399-7A
Section:	7A
Date:	AUGUST 1991
Corporate Bulletin No.:	177119
ASE No.:	ASE NO. A2

Subject: **3-4 CLUTCH/2-4 BAND SERVICE INFORMATION**

Model and Year: **1982-91 CAPRICE, CAMARO AND CORVETTE AND 1982-91 ALL TRUCKS WITH 4L60 AUTOMATIC TRANSMISSION**

TRANSMISSION APPLICATIONS:	SUBJECT:
1982-91 HYDRA-MATIC 4L60 /	3-4 Clutch / 2-4 Band THM 700-R4 (MD8) Service Information
TRANSMISSION MODELS:	VEHICLE APPLICATIONS:
All	All with HYDRA-MATIC 4L60

Bulletin Covers:
The following information will be helpful when servicing a HYDRA-MATIC 4L60 transmission for a "no third or fourth gear" or "slipping in third or fourth gear" condition. Many root causes for these problems have been identified, and more than one cause may exist at the same time. This bulletin covers some causes that may not be obvious when doing a normal repair procedure.

Service Information:

Before servicing the transmission, check the following:

- TV Cable Setting —
  Make sure the TV cable is set to the correct position. Never adjust the cable to hide a shift complaint or to change performance. This can mask the root cause and damage the transmission.

- Fluid Level —
  GM Powertrain cannot emphasize enough how important fluid level is to transmission performance. Both high and low fluid levels can cause problems.

  A low fluid level causes low line pressure. This can burn clutches by not allowing the clutch to apply quickly enough, or by not keeping the clutch fully applied.

  A high fluid level allows fluid to become foamy when the fluid is churned through the gearsets. Since air is compressible, the foamy fluid does not apply the clutches with as much force as they need.

- Cooler Flow —
  Perform a cooler flow check as outlined in the cooler flush procedure. Cooler lines can be partially blocked so it is important to know that cooler flow is adequate.

During overhaul, look at the following items:

- Filter Neck Seal —
  Examine the filter neck seal for evidence of heat set. If the seal doesn't properly seal around the filter, air can get into the pump and cause low line pressure or aerated fluid. Replace the seal if you suspect it doesn't fit properly.

- Pump Body Bushing —
  Disassemble the pump and examine the pump body bushing for wear. A worn bushing can create a large leak in the pump and lower line pressure which can cause lube flow to be cut off. Replace a worn bushing. If the bore seems to be out of round (excess wear in one area), replace the pump body.

- 3-4 Clutch Boost Springs —
  Examine the boost springs (if present) for evidence of polishing on the spring tabs. This can occur when the outer diameter of the 3-4 clutch friction plates rub on the boost springs. Replace the boost springs as necessary.

- Input Housing —
  Look at the splines on the inside of the input housing. If the sets of three splines show drag marks in the middle spline, the steel plates of the 3-4 clutch are binding in the housing. New steel plates are available for service that have a smaller outer diameter to stop the binding condition. Reference Dealer Service Bulletin No. 91-112-7A for more information.

- 2-4 Band —
  Check the 2-4 band for a lube window. A design change was made in September of 1989 which added a round lube window to direct fluid to the band when it is not applied. Install this new band if the transmission does not have one with the window. Reference Dealer Service Bulletin No. 90-121-7A for more information.

- Output Shaft and Seal —
  Changes have been made to the lube passages in 1991 production transmissions. Refer to Dealer Service Bulletin No. 91-390-7A for more information.

- 1-2 Accumulator —
  Inspect the 1-2 accumulator piston and bore for scoring.

- 3-4 Accumulator —
  Inspect the 3-4 accumulator piston and bore for scoring.

Debris inside the transmission can cause problems for the 3-4 clutch and 2-4 band. During any overhaul procedure, keep the area clean and clean all parts well before reinstalling them. Here are few areas to pay special attention to when servicing a transmission for a 3-4 clutch or 2-4 band condition:

- Third Accumulator Exhaust Checkball and Retainer Located in the case servo bore, this check ball can get sediment stuck in it which doesn't allow the ball to seat. This can cause the band to drag or the 3-4 clutch to not fully apply on a 2-3 upshift.

- Third Accumulator Orifice Cup Plug Also located in the case servo bore, this orifice must be kept unblocked. If sediment blocks the orifice, the third accumulator will not fill properly due to trapped air in the cavity. This can cause apply and release conditions with the 3-4 clutch. The orifice cup plug also lubes the 2-4 band through the band's lube window.

- 3-4 Clutch Exhaust Checkball and Retainer Located in the input housing, this checkball helps exhaust the 3-4 clutch. If the checkball cannot seat, the 3-4 clutch cannot fully apply. If the checkball is stuck in the seated position, the 3-4 clutch cannot fully exhaust.

New 3-4 Clutch Friction Material:

New friction plates have been released for limited applications in the 3-4 clutch of the HYDRA-MATIC 4L60. The new plates have increased heat capacity, but cannot be used interchangeably with the previous friction material.

Transmission models are being recalibrated as time permits, and the new material has been phased into production during the 1991 model year. Model codes changed as transmissions received the new 3-4 clutch material.

Since the new friction material has very different friction characteristics, each transmission model has been re-calibrated for shift feel. The new friction material cannot be used to back service any transmissions except for those 1991 models listed below.

NOTICE: DO NOT USE THE NEW FRICTION MATERIAL IN ANY TRANSMISSION THAT IS NOT SPECIFICALLY CALIBRATED FOR IT. IF THE NEW MATERIAL IS USED IN AN INCORRECT APPLICATION, SHIFT QUALITY WILL BE VERY POOR AND TRANSMISSION DAMAGE CAN OCCUR QUICKLY.

The first transmissions to contain the new friction materials were built in January 1991. Transmission models used with 5.7 liter engines were the first to receive the new material.

The following 1991 NEW transmission models contain the new friction material. The PREVIOUS models are the corresponding early 1991 models that do not contain the new friction material.

NEW:	PREVIOUS:
1AMM	1AKM
1APM	1DBM
1CNM	1CHM
1CYM	1CJM
1FYM	1FUM
1KWM	1KRM
1LHM	none
1RCM	1RAM
1RDM	1WCM
1YHM	1YDM

Overhaul kits contain both the previous and new 3-4 clutch friction material along with an instruction sheet that explains which material to use.

Previous and new 3-4 friction plates can be ordered individually.