



Perennially Problematic Peugeots

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Before Chrysler Corporation acquired what was left of American Motors and the Jeep Corporation, you never knew what components would turn up in a Jeep vehicle. AMC traditionally was too poor to fund the R&D necessary to develop its own components and had to purchase many major components from other manufacturers. Looking for a

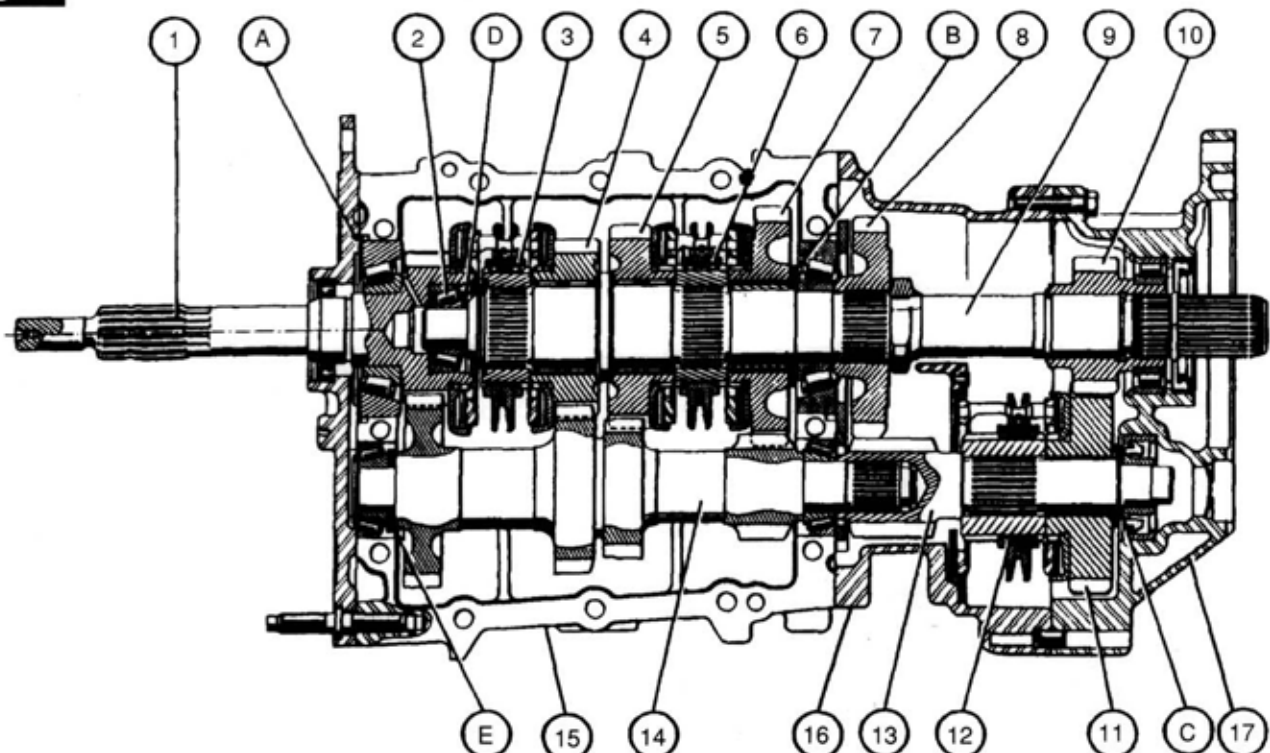
five-speed manual transmission for the Cherokee and Wrangler models, AMC purchased the BA 10/5 from French automaker Peugeot.

The five-speed split-case transmission with overdrive is similar in design to the Toyota T50, Subaru and Samurai units. The gear ratios in the unit are: 1st, 4.03-2; 2nd, 2.39-1; 3rd, 1.52-1; 4th, 1:00-1; 5th, 0.72-1; and Reverse, 3.76-1.

All forward speeds are synchronized. The unit is composed of a main case which splits, a removable aluminum front-bearing retainer, a removable steel rear-bearing retainer, an intermediate case and a rear case that bolts to the transfer case. The shifter is located in the rear case, 5th and reverse gears are housed in the intermediate case, and 1st through 4th gears are placed in the main case. These units are identified easily by the split-case design and a metal ID tag located on the passenger side of the case.

A word to the wise: Before you get into repairing one of the gear boxes, get a repair manual, check the parts prices and become familiar with the unit's shortcomings. The parts in this unit are horribly expensive. An input and a cluster

fig. #1



- 1. Input Shaft
- 2. Pilot Bushing
- 3. 3-4 Synchronizer
- 4. Third Gear
- 5. Second Gear
- 6. 1-2 Synchronizer
- 7. First Gear
- 8. Reverse Gear

- 9. Mainshaft
- 10. Fifth Gear
- 11. Fifth Intermediate Gear
- 12. Fifth Gear Synchronizer
- 13. Intermediate Shaft
- 14. Cluster Gear
- 15. Front Case
- 16. Intermediate Case

- 17. Rear Case
- A. Front Bearing Shims
- B. Rear Bearing Shims
- C. Intermediate Shaft Endplay Shims
- D. Pilot Bearing Shims
- E. Cluster Front Bearing Shims

are worth more than some of the cars they are in. These units are notoriously hard shifting. Brand new units shift very stiffly, particularly on a 2-1 downshift. Part of the problem is lube-related with 75-90W

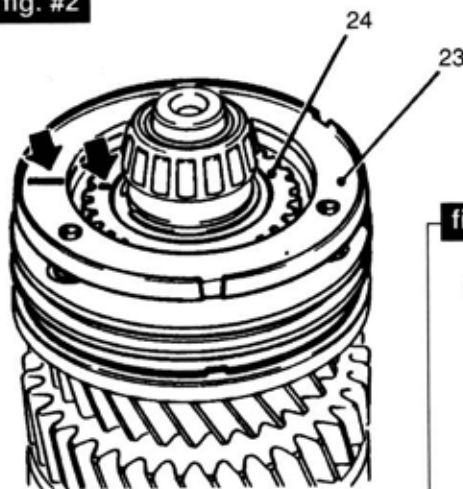


gear oil as the factory lube, cold-shifting is tough. Switching to 20-50W synthetic motor oil helps, but is not a complete cure. The main culprit is the synchronizer design and capacity. This unit is equipped with pin-type synchros, last used in the NP435. An antique design, pin-type synchros are prone to loose pins, slider hang-up (hard shifts), and are extremely sensitive to endplay. When tearing down one of these units, you **MUST** mark the hub and slider to index them for reassembly (See Figure 1). Failure to do so will make shifting go from bad to worse.

Endplay and preload are maintained by shims in front of or under the main bearings. See the letter key in the cutaway schematic (Figure 2). In many cases, these shims are accompanied by a thrust washer. A real time saver is to take some plastic ties and keep the bearing, race, shim and washer together for easy measurement and reassembly. At the nose of the mainshaft is a tapered bearing similar to the ZF design in Ford trucks. Be aware that under the bearing is a selective shim to maintain mainshaft endplay.

The detent and interlock system on the Peugeot is somewhat tricky, and it is easy to make assembly errors here. Due to the split-case design with all shift rails in one case half, the 5th-reverse shift-rail detent ball and spring are housed in a

fig. #2



Mark the third-fourth synchronizer and hub for assembly reference. Then remove the synchronizer (24) from the hub (23).

bore under the rear mainshaft bearing (#57 in Figure 3). If you don't take care on disassembly, they will march on. When reassembling the 5th-gear fork, be careful not to over-travel the 5th-reverse rail, as the detent ball will escape into the case and you will have to take the main case apart again. The 3-4 shift rail has a thin interlock pin running through it (#69 in Figure 3), which is easily lost in handling.

This is a difficult unit to work with. On one hand, it is usually a very expensive repair to sell to a customer. On the other, we have an antiquated design that, at best, will never shift as smoothly as the modern design we are used to. So, there we are in the middle again. It is important to sell the owner the necessary repairs with-

out bad-mouthing the unit, and if you are to be successful in your repair, your tolerances must be dead on. Get a factory manual if you can (the Jeep number was 8980 010 302) which will give you all the specs. Pay close attention to the small details and the big ones will take care of themselves. ■

fig. #3

SHIFT COMPONENT LOCATION CHART

