

### The New Venture Gear A578 Transaxle

By Mike Weinberg Contributing Editor

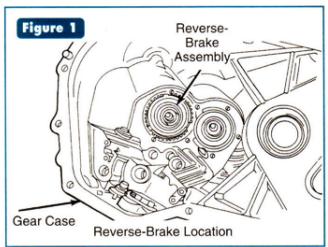
First produced in 1994, the NVG A578 transaxle is found in the Chrysler Neon vehicles. In 1995 Mitsubishi started to use this gearbox in the Eclipse RS and GS vehicles, and Chrysler added this unit to the Talon models. Mitsubishi vehicles that use this gearbox have an East-West engine placement like the Chrysler line, rather than the West-East configuration long used by Mitsubishi. As you are aware, a West-East engine layout reverses engine rotation and necessitates the inclusion of a third shaft to turn the differential ring gear in the proper direction. Mitsubishi designates the NVG A578 as an F5MC1 for model identification.

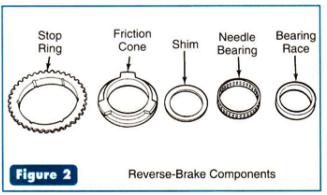
Weighing in at 82 lbs. dry, this aluminum-cased 5speed can handle 140 ft./lbs. of torque. The five forward speeds are synchronized and in constant mesh. There are two versions of this unit, with the

Ratios	
1st gear	3.54-1
2nd gear	2.13-1
3rd gear	1.36-1
4th gear	1.03-1
5th gear	0.72-1, base model
	0.81-1, sport model
reverse	3.42-1
final-drive ratio	3.55-1, base model
	3.94-1, sport model

sport model having a different final-drive ratio and different 5th-gear ratio. The sport model also includes a reverse blocking ring to stop the input shaft for cleaner shifts into reverse (See Figures 1 and 2).

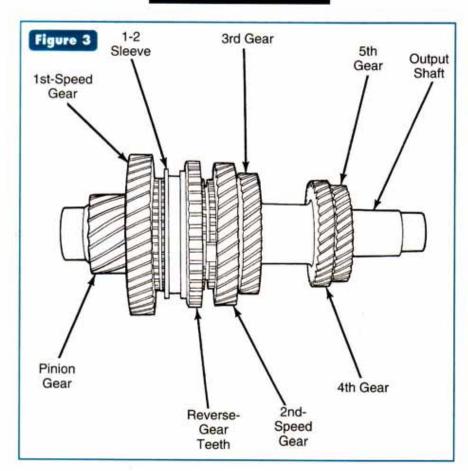
There is no external way to know which unit you are working on except for the ID tag, which also may include a model number of NVT-350 followed







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by A578. If you are going to swap units from the junkyard, be careful that you don't wind up with a disappointed customer who had a sport model that you replaced with a base model.

This transaxle uses 2.1 quarts of Mopar MS9417 MTX fluid, part #4773167. Use no other lube such as gear lube, motor oil or ATF, as shift problems may occur. While working on this unit for internal repairs, always make sure that the lube channels and tubes are in place and free of debris and blockage.

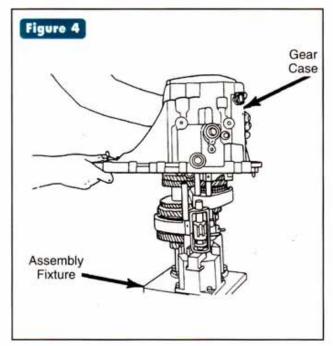
Two types of clutches are used with this transaxle. One is a conventional design made by LuK that uses a dual-damped disc with a conventional pressure plate and flywheel. The other type is a modular clutch made by Sachs. This unit consists of a 9-inch disc, pressure plate and flywheel that are riveted together

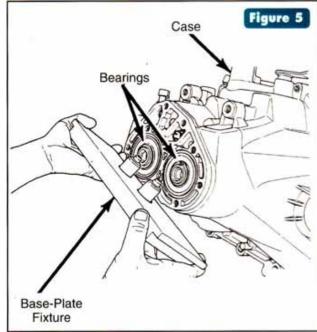
during manufacture. This unit bolts up to an automatic-type flex plate. This clutch cannot be disassembled and must be replaced as a unit.

There are several important design variations in this transaxle that should be understood. The input and output shafts are supported in the front case by cylindrical roller bearings, and with sealed ball bearings in the rear. There is no adjustment for endplay. The ball-bearing setup in the back case will look familiar to those of you who have built NV 282 transaxles. All of the speed gears ride on needle bearings, and the differential uses tapered roller bearings. Selective shims under the bearing race in the front case half set differential endplay and preload. The output shaft has the 1st and 2nd speed gears and the 1-2 synchronizer continues next page



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assembly mounted on it, as well as the 3rd, 4th and 5th counter gears (See Figure 3). Because of the design and the manufacturing process, the output-shaft components are not serviceable. You heard right. If you have a problem with shifts in 1st or 2nd, or any synchronization concerns, you have to buy a complete output shaft. Keep this in mind when discussing possible repair costs with your customers.

Several tools are available to make repairs easier (See Figures 4 and 5). The first is an assembly fixture that makes removal and loading of the geartrain simple, and the second is a base-plate fixture that enables you to press both shafts from the case in one operation, a la the old 282.

The A578 probably will show up in shops in greater volume, as the vehicles now have matured out of warranty. As usual, a copy of the service repair manual will help you return this transaxle to proper specs and good working order.

#### THE BOTTOM LINE:

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