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# ISUZU REVIEW

The cars we work on are no longer are "imports" or domestic, but really a blend of both. Technology is very expensive to develop, prototype and produce. With the generally slack market for new car sales and the huge number of manufacturers competing for market share, it is only natural that car makers will seek components and assemblies to suit their purposes without the expense of research and development. Thus we all have become used to seeing Jeeps with Asian and French transmissions, Fords with German and Japanese gear boxes and so on. Expect this trend to continue as efficiency and cost-controls rule the marketplace.

One of the Asian units found on GM front-wheel-drive cars is the Isuzu 76MM five-speed transaxle. This unit also is designated as MK7, MR3 and MT2, which are production option codes. By the way, the 76MM comes from the centerline

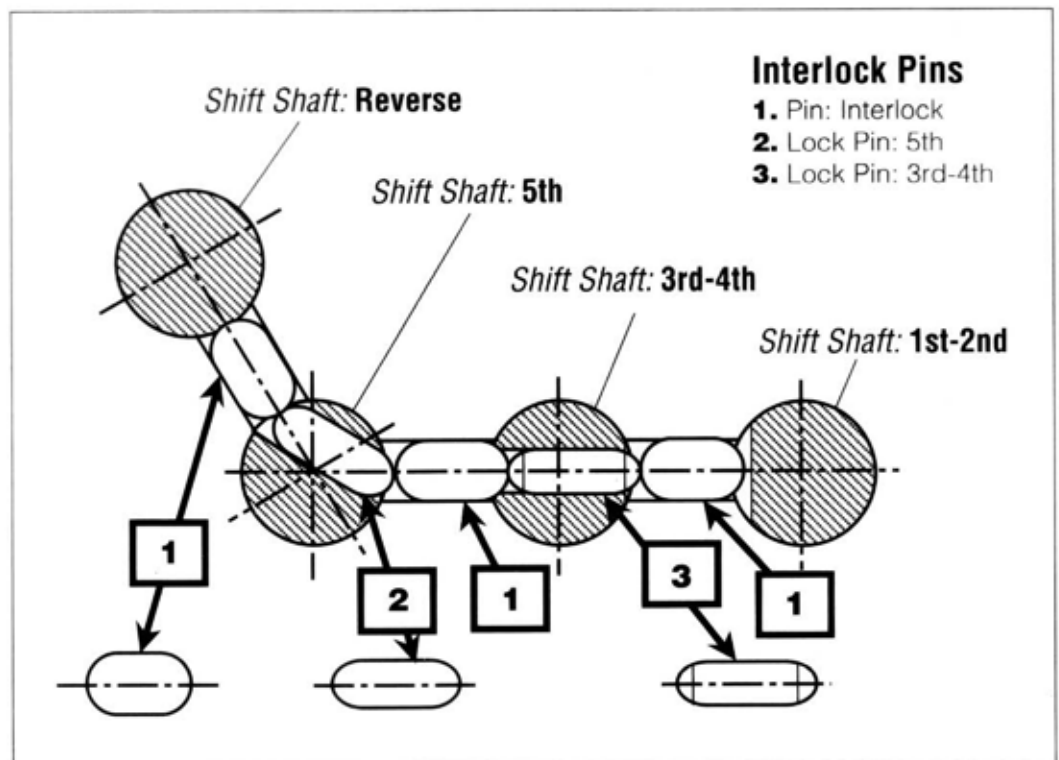
measurement between the transmission shafts.

This unit has five forward speeds, fully synchronized with all forward gears in constant mesh. Reverse is achieved through a typical sliding idler gear. This model has a removable shift-control box that houses the external shift-linkage system, and is operated by cables controlled by the driver's shift lever.

The unit uses tapered roller bearings with selective shims to maintain proper preload. The internal shift mechanism is comprised of four shift rails with an interesting

detent and interlock system. Under the reverse shift bracket which bolts to the clutch housing there are three interlock pins. The 5th gear-shift rail and the 3-4 shift rail have lock pins that run through them. Combined with the interlock pins, these ensure that the transaxle can be in only one gear at a time. Be extremely careful on teardown to note the position of these parts and to make sure they don't wind up in the bottom of the spray washer.

Front-wheel-drive units have a little different layout and it is important to note gear position on the  
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## Preload Shim Sizes Chart

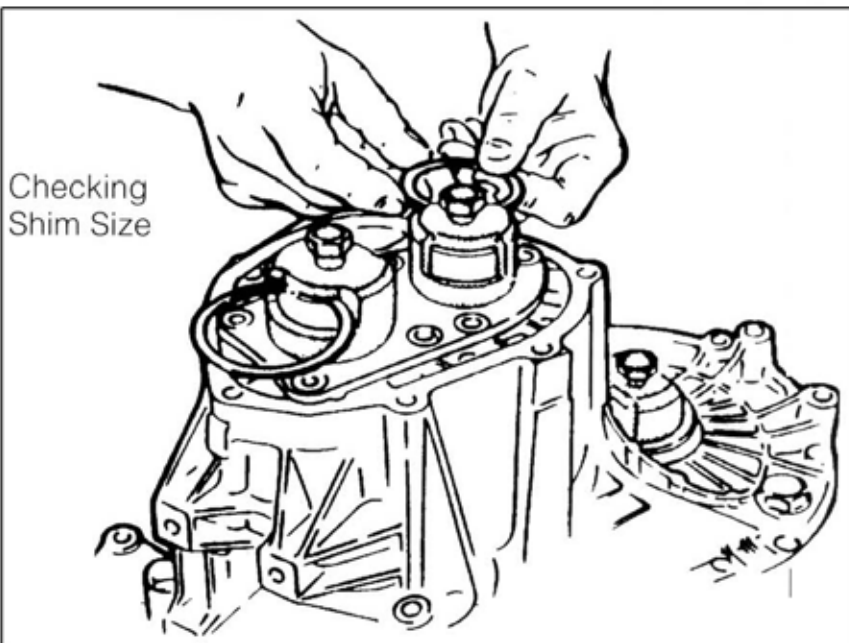
Thickness		Available			Thickness		Available		
mm	in.	Input	Output	Diff.	mm	in.	Input	Output	Diff.
1.00	0.0394	•			1.76	0.0693	•		•
1.04	0.0410	•			1.80	0.0709	•	•	•
1.06	0.0426	•		•	1.84	0.0725	•		•
1.12	0.0441	•		•	1.88	0.0741	•	•	•
1.16	0.0457	•	•	•	1.92	0.0756	•		•
1.20	0.0473	•		•	1.96	0.0772	•	•	•
1.24	0.0489	•	•	•	2.00	0.0788	•		•
1.28	0.0504	•		•	2.04	0.0804	•	•	
1.32	0.0520	•	•	•	2.08	0.0820	•		
1.36	0.0536	•		•	2.12	0.0835	•	•	
1.40	0.0552	•	•	•	2.16	0.0851	•		
1.44	0.0567	•		•	2.20	0.0867	•	•	
1.48	0.0583	•	•	•	2.24	0.0883	•		
1.52	0.0599	•		•	2.28	0.0899	•	•	
1.56	0.0615	•	•	•	2.32	0.0914	•		
1.60	0.0630	•		•	2.36	0.0930	•	•	
1.64	0.0646	•	•	•	2.40	0.0946	•		
1.68	0.0662	•		•	2.44	0.0951	•	•	
1.72	0.0678	•	•	•	2.48	0.0977	•		

shafts so that ordering parts won't be a hassle. The 1st and 2nd speed gears and synchronizer are located on the input shaft, while the 3rd and 4th speed gears and synchronizer are located on the output shaft. The 3rd and 4th counter gear is a one-piece assembly located on the input shaft and is removable. A normal open differential provides power to the drive axles.

There is a Gauge Selector Kit available (Tool #J33373) to make it easy to adjust preload. With the gauge in place and using the selective shim chart provided by the manufacturer, the following specs apply:

- The input-shaft shim should be two sizes thinner than the thickest shim that will fit the gauge.
- The Diff shim should be three sizes thicker than the thickest shim that will pass smoothly through the gauge.
- The output-shaft shim size should be the thickest shim that can get through the gauge without drag.

Preload is critical. Gauge sets are expensive, especially if you only see



one of the units occasionally. Best bet – borrow a gauge set from friendly neighborhood GM dealer. No luck? No worries! Use the old solder trick. Buy rolls of solder in various thickness. Cut two half-moon strips of solder of a thickness larger than the shim you removed and place them on top of the bearing race instead of the shim. Bolt the case halves together, and the solder will crush like Plasticgag. Take the case back apart and you now have

the measurement of the space behind the bearing and can use the preceding specs to find the right shim. This is a nice unit to build once you get the hang of the interlock system. When you think about it, this globalization of the automobile isn't that bad, is it? Whatever your feelings on the subject, it is here to stay and will provide great opportunity for the technicians "in the know." ■