Moyer Marine inc.

Brace Pin for Reversing Gear

PARTS

GENERAL

The **brace pin** attaches the front of the **brace** to the reversing gear brake band. *The brace itself has the important function of securing the reversing brake band fore and aft while the band is being tightened around the gear cage assembly to select reverse.* The aft end of the brace is attached to the cross shaft.

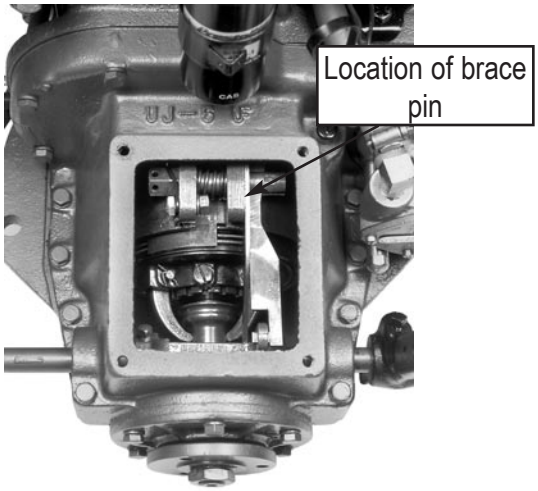

Photo 1

Original brace pins are quite short, *and they occasionally become lose and work their way out of the brake band*; moving through the hole in the brace, and then falling into the oil pan.

With the brace pin gone, the front of the brace becomes free, and it can no longer hold the brake band in place; making it impossible to engage reverse. ***In worst cases, a loose brake band can bind around the gear cage assembly and interfere with forward mode as well.***

The pin in this kit is long enough to extend through the ear of the brake band and to be secured by a cotter pin. (See Photo 4) The new pin is tapered like the original, which prevents it from sliding to the left.

INSTALLATION

ENGINE DISASSEMBLED: If the break band is out of the engine, it is only necessary to tap the original pin out of the band (from left to right), and then to drive the new pin in until the cotter pin hole is exposed. Installing the cotter pin completes the job. It is usually easiest to orient the cotter pin vertically.

ENGINE ASSEMBLED (AND INSTALLED):

1) Press out the original pin using a vise-grip (the standard 10" works well) and a 1 3/4" bolt as shown in Photo 2. Be sure to hold the pin as it comes free so as not to drop it in the oil pan. A second needle nose vise-grip(the next size smaller) to hold the pin as it starts to move out makes this part of the operation much more secure.

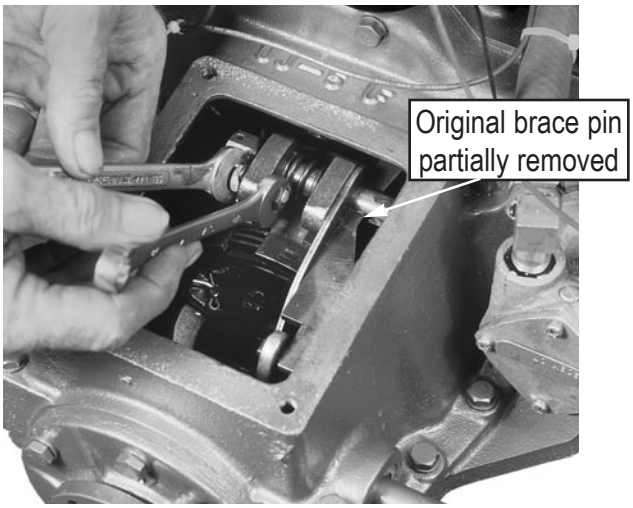

Photo 2

2) After the original pin is removed, press the new pin in place with the vise-grip as shown in Photo 3. It is usually easiest to orient the cotter pin hole vertically.

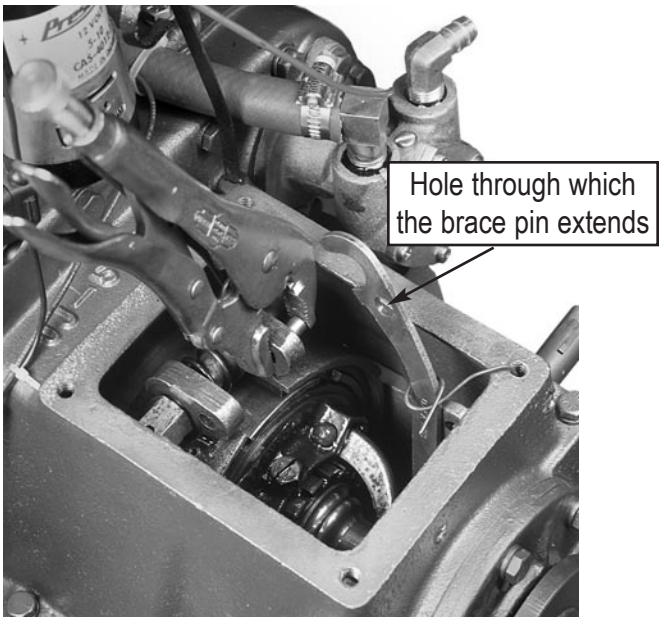

Photo 3

In Photo 3, the forward end of the brace has been raised to show the hole through which the end of the brace pin extends.

NOTE: The new brace pin can be installed through the hole in the brace, without the need to free the end of the brace, *or even to disturb the adjustment of the reversing gear band.*

3) Insertion of the cotter pin as shown in Photo 4 completes the job.

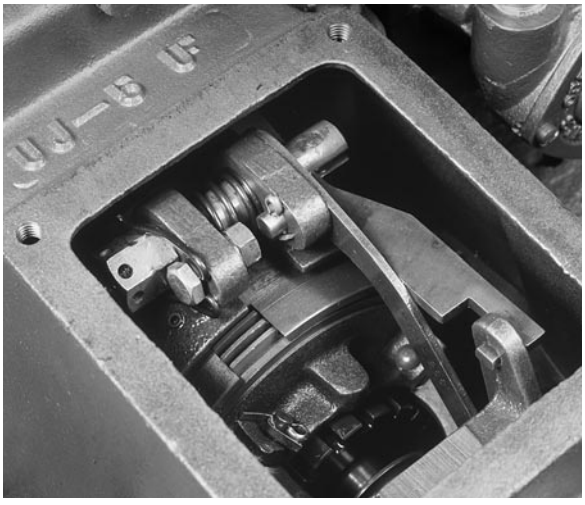

Photo 4

SUMMARY

1) In most cases, the original brace pin will come out quite easily (which is, after all, the point of this modification). For this reason, be prepared to catch the old pin rather quickly. As mentioned above, a second needle-nose vise-grip really helps at this point.

2) When installing the new pin as in Photo 3, it is usually possible to angle the vise-grip as the pin begins to come through the brake band so as to allow the end of the pin to pass the inboard jaw of the vise-grip. Keep pressing until the cotter pin hole easily clears the inboard side of the brake band.

NOTE: A small socket can be placed under the inboard jaw of the vise-grip so as to give the end of the pin a place to enter as it comes through the brake band. *However, this procedure does introduce additional risk of dropping a tool into the oil pan.*

3) Original brace pins frequently did not extend quite through the entire thickness of the brace itself. The new pins are sized a bit longer and may extend slightly through the brace. This minor extension past the brace has no effect on the functioning of the assembly.

4) Last, but not least! A magnetic retrieval tool (preferably one of the ones with a flexible shaft) is extremely handy in the event that a part or tool is dropped during installation.