

TR 2-3 OIL PICK UP IMPROVEMENT

By Kevin Johnson, Ishihara Crank Scrapers (www.crank-scrapers.com) Oct. 2010

The Triumph TR2-TR4A pickup tube has a common failure mode seen below. This allows unscreened oil to enter the pump – depending on the size of the particle or object drawn in this could be fatal to the engine.

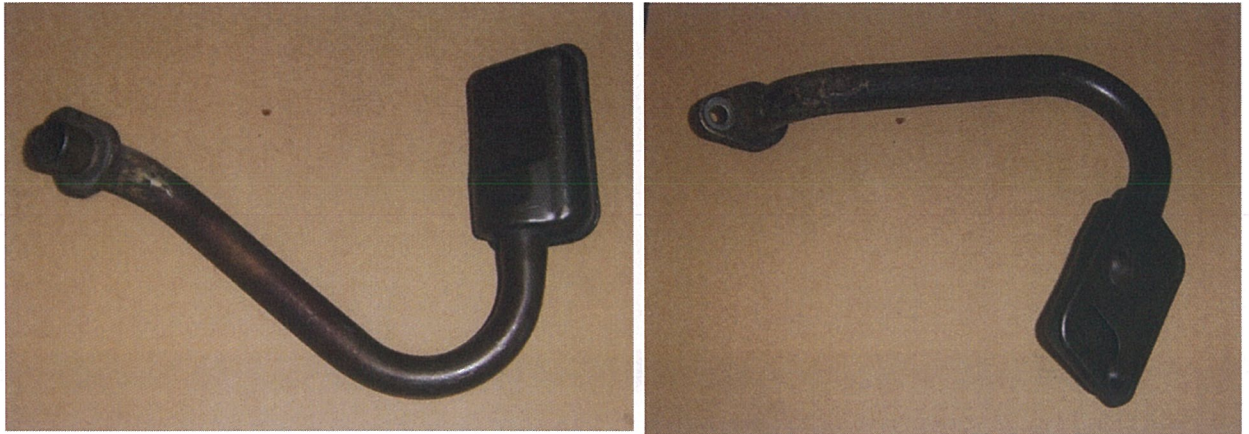
There is a relatively easy way to repair and update the pickup.



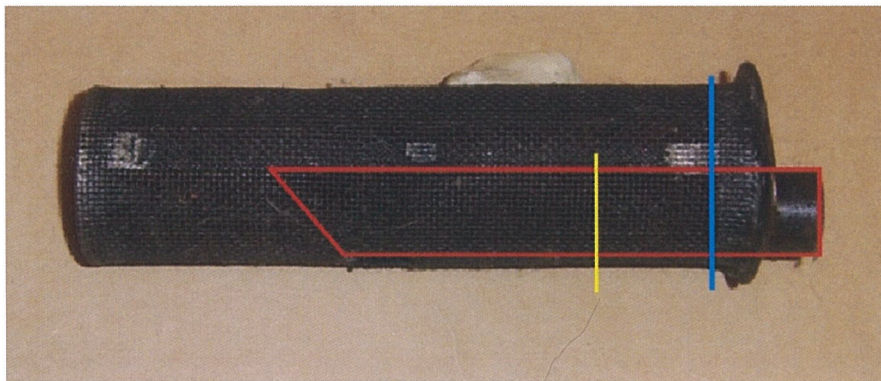
A number of Chrysler/Dodge engines came with pickup tubes with horizontally oriented heads in order for the tubes to clear balance shaft assemblies. The 2.5 common block (excepting the engine in the Dakota pickup truck which had no balance shafts) is a good source of used pickup heads which conveniently have a tube ID of about 19mm near the head. Other sources would be the 2.4 engines seen in the SRT4. Many of these parts can still be purchased new from the dealer.



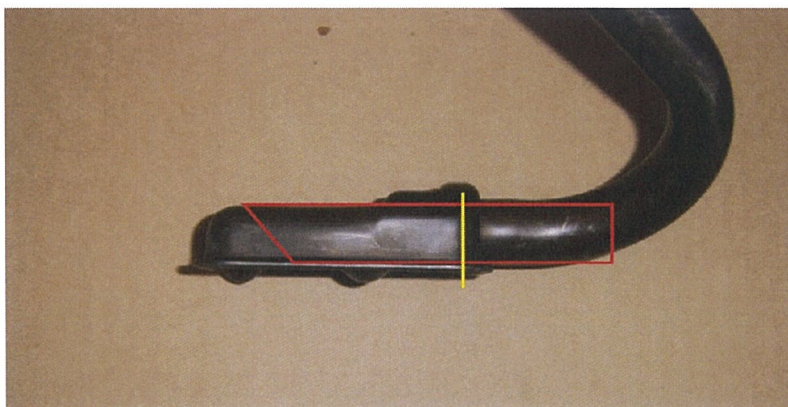
Typical donor part; others similar:

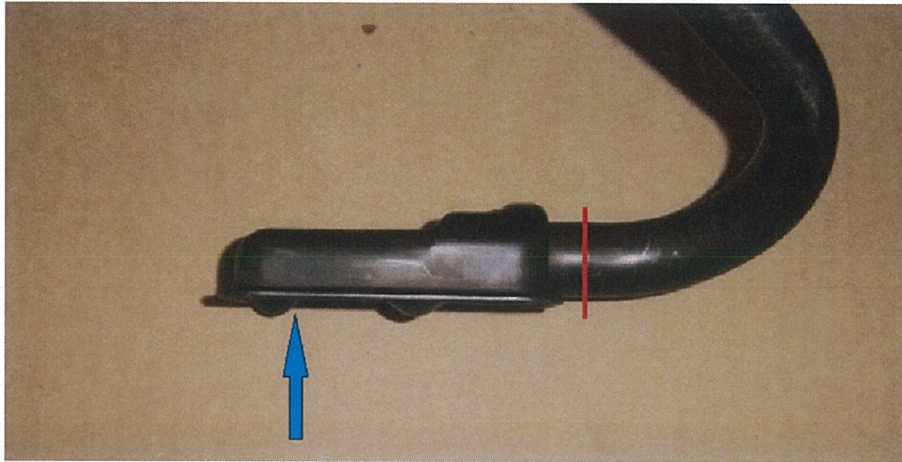


1. Trim away the screening (blue cut) and expose the tube (red outline):



The image below shows the Triumph tube outline superimposed on the Dodge part. It is important that the relative positioning of the slash cut Triumph opening is the same as with the Dodge part (oval opening underneath). The opening is relatively centered over the Triumph oil pan floor. The Triumph tube will need to be cut at approximately the yellow mark. Measure twice, cut once!





Above: the blue arrow indicates the opening on the Dodge part. The red line is where the tube will need to be cut (it is slightly expanded there to yield the 19mm ID). Sand the interior of the pickup tube opening and the exterior of the Triumph tube. They will need to be very clean for soldering. Check to ensure that the parts will slip together.

The Dodge pickup head is brazed to the tube so when you solder the Triumph tube to the inside you will need to use a low fusing high strength silver solder to avoid disturbing this earlier joint. The process is very similar to soldering copper pipes for plumbing. You should use an appropriate flux (sparingly so it does not contaminate the inside of the head).

Be sure that the pickup head is properly oriented to the floor of the pan – note that there are two possible ways to install the Triumph tube in the oil pump – only one of them is correct. The collar around the pickup tube where the screening attached may prevent the pan from seating fully if the tube is installed incorrectly.

It is suggested that the tube be tacked in place prior to soldering and plastic sheeting placed over the pickup base to allow a lump of modeling clay to be placed there. Install the tube on the pump and gently work the pan up around it and seat it fully against the block in its correct position. Remove the pan and check the thickness of the clay – you want to have a minimum of 6.25mm clearance (1/4"). Adjust the pickup head if needed and recheck. **This clearance is critical.**

Good luck with your new improved pickup head. The G-rating of your wetsump will improve as it will be more difficult to expose the opening to air. These pickup heads were used on millions of stock engines and on many racing engines.

Sincerely,

Ishihara-Johnson Crank Scrapers