Fitment instructions

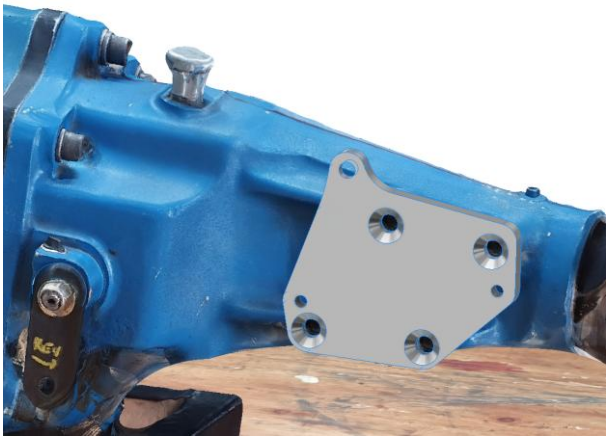
4 speed ford toploader and g force/tex racing 101, Muncie

These shifters are design to fit what they are sold for only but it should be possible to modify to suit other 4 speed boxes by changing the mounting bracket push rods and shift arm lengths and angles, although this is possible its not something we can assist with so unless you have a solid understanding of geometry please don't try. We do have further explanation of this at this link https://s1sequential.com/4-speed-shifter-modification/

Fitment is straight forwards with only special attention needed to check the throws are correct.

Remember that all gearboxes with dog gears need the input shaft turned as you shift or they will not go in gear most of the time this can be true for a synchro box also.

1. Remove all factory shifter parts
2. Fit mounting bracket to the gearbox, take care to check the thread matches when doing this

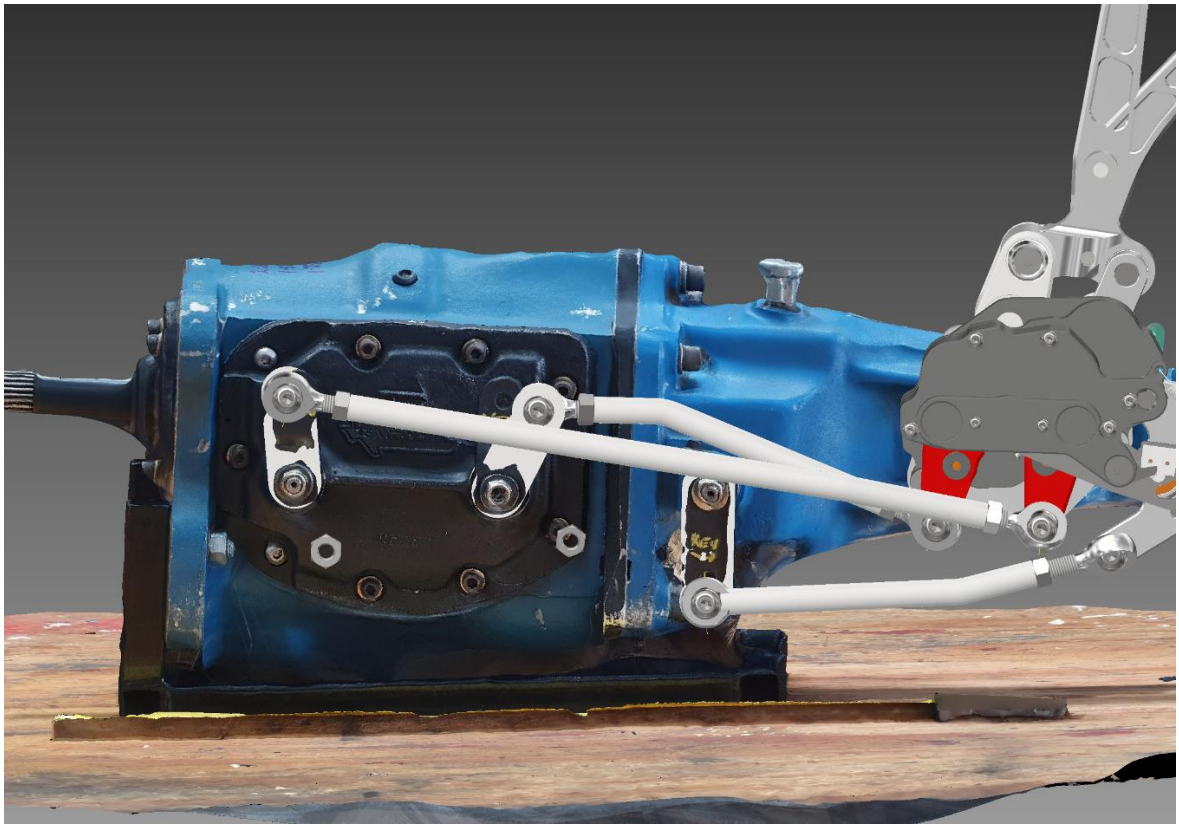


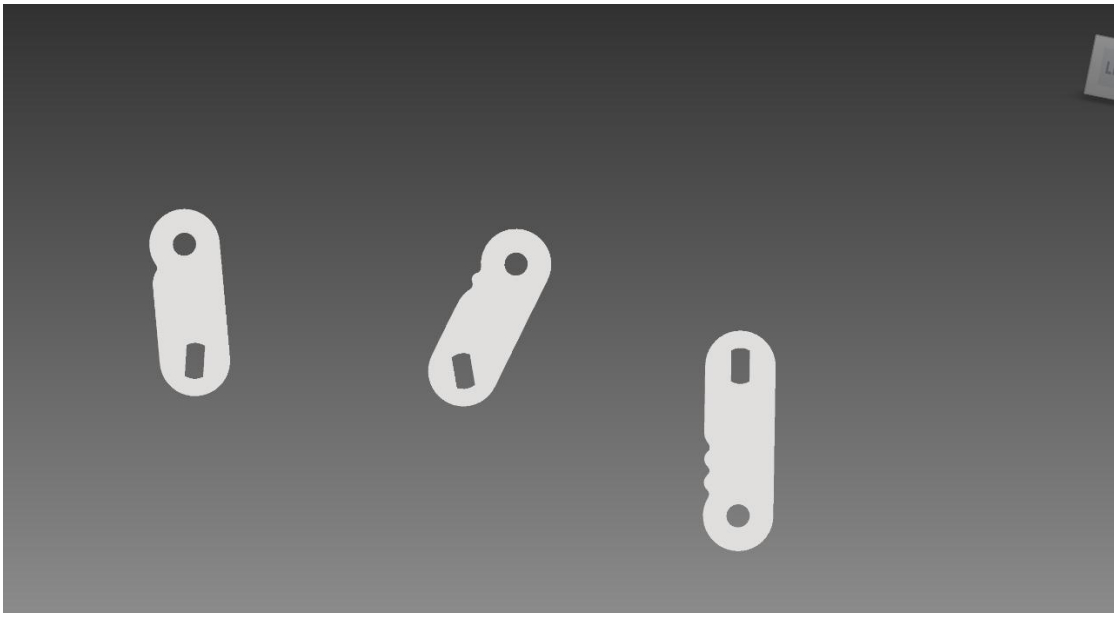
3. There is a diagram for each gearbox type below, please observe the number/shape and direction of the notches on each arm for your specific gearbox type. But the arms are always arranged with the notches facing forwards and the number of notches counting from the front of the box. These need to be a tight fit with no play so they are slightly under and will probably need cleaning up with a file.

A, The front arm (3-4) might need to use the longer bolt with a second nut fitted between the rod end and the shift arm to give clearance.

B, The 1-2 arm might need the head of the bolt at the rear and in some cases you might have to grind the head down a little for clearance to the case. Use Loctite on everything.

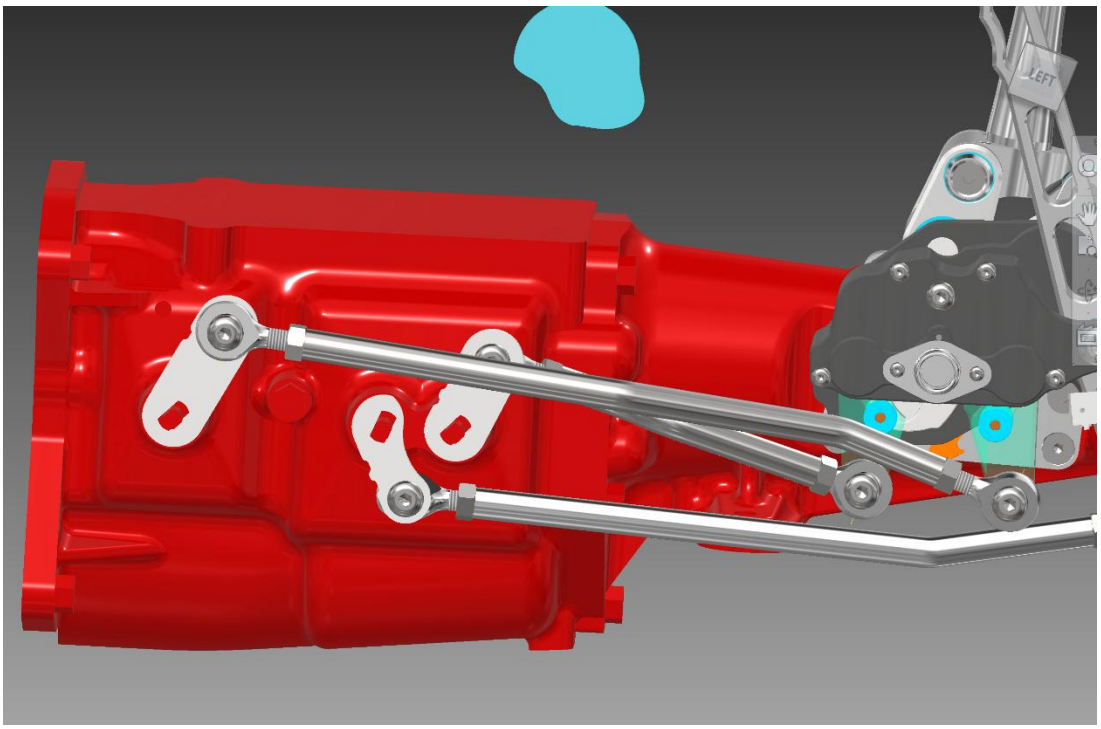
Gforce/tex

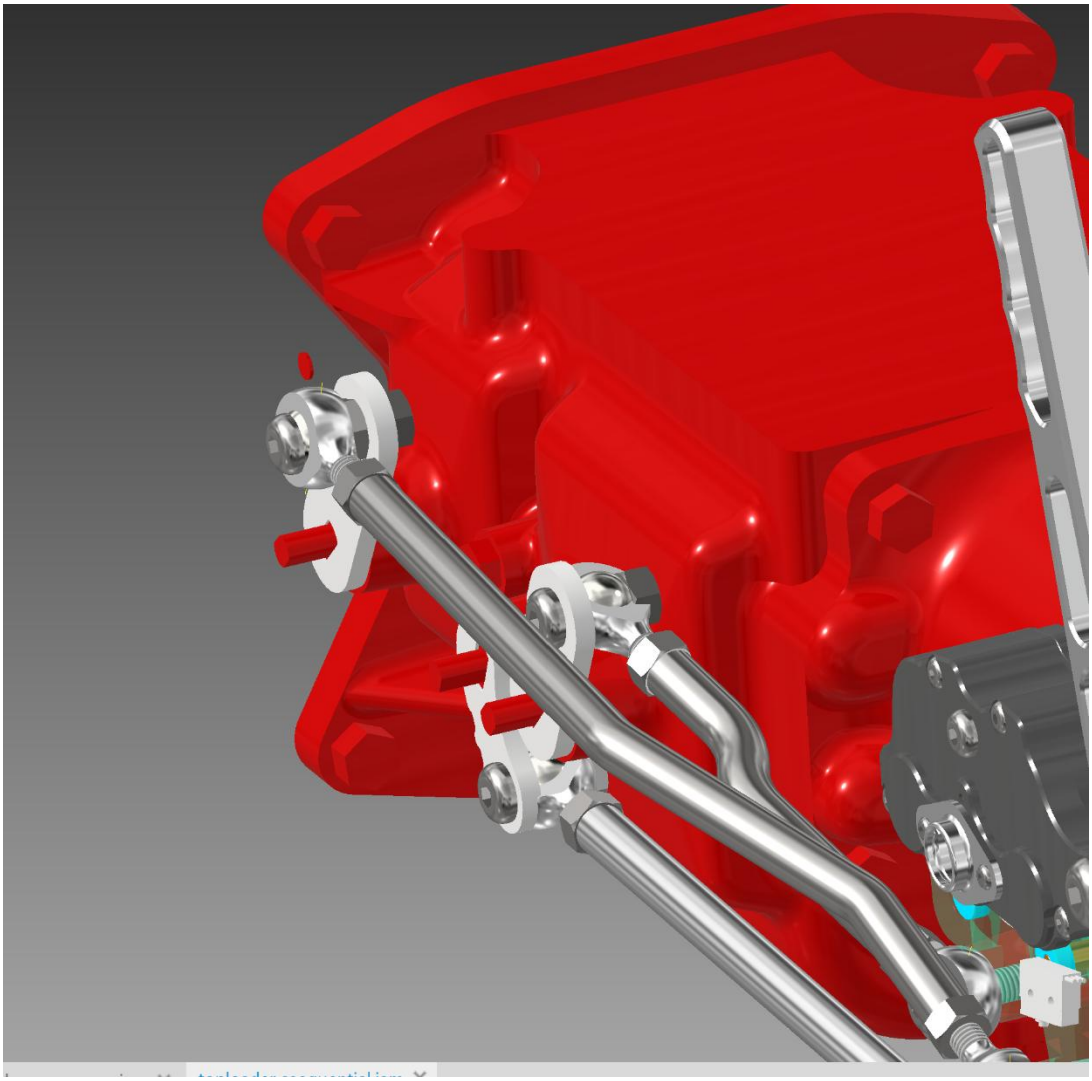




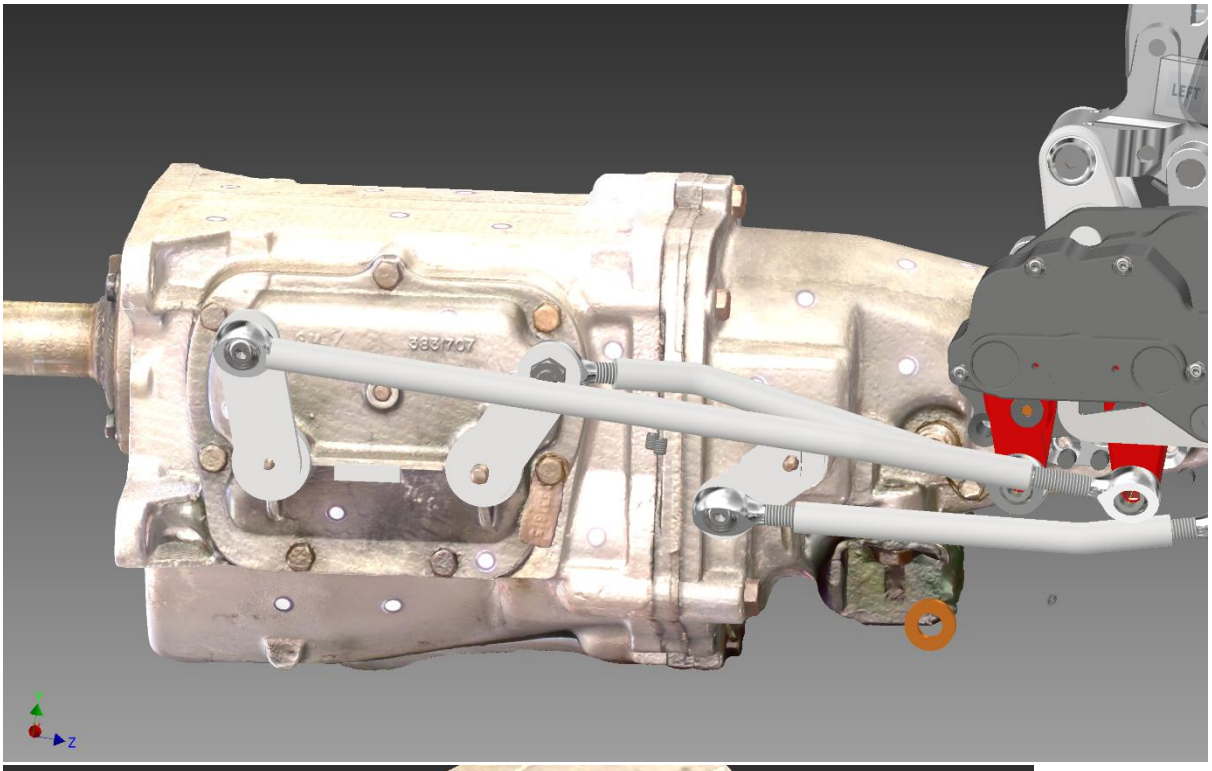
Observe the notches in the arms, this applies to all boxes, 1, 2, 3

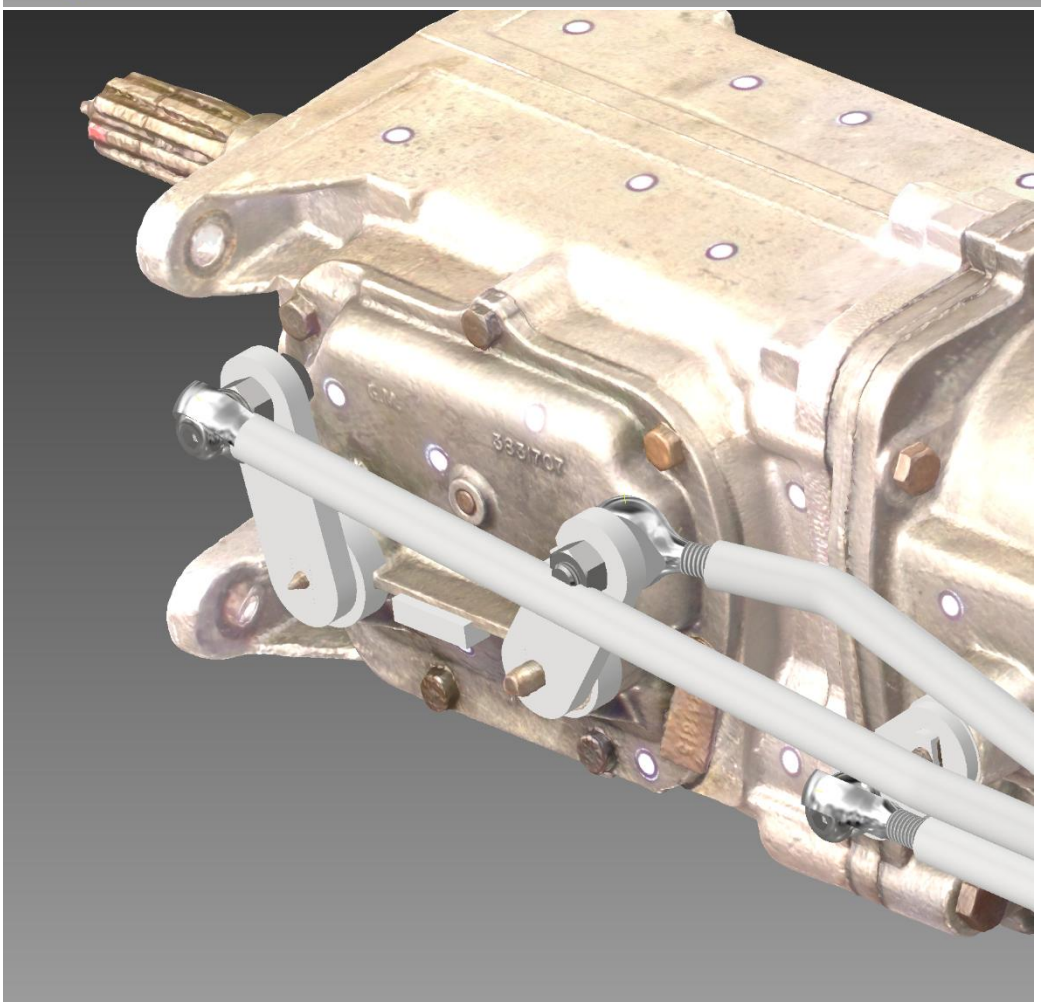
Ford Toploader



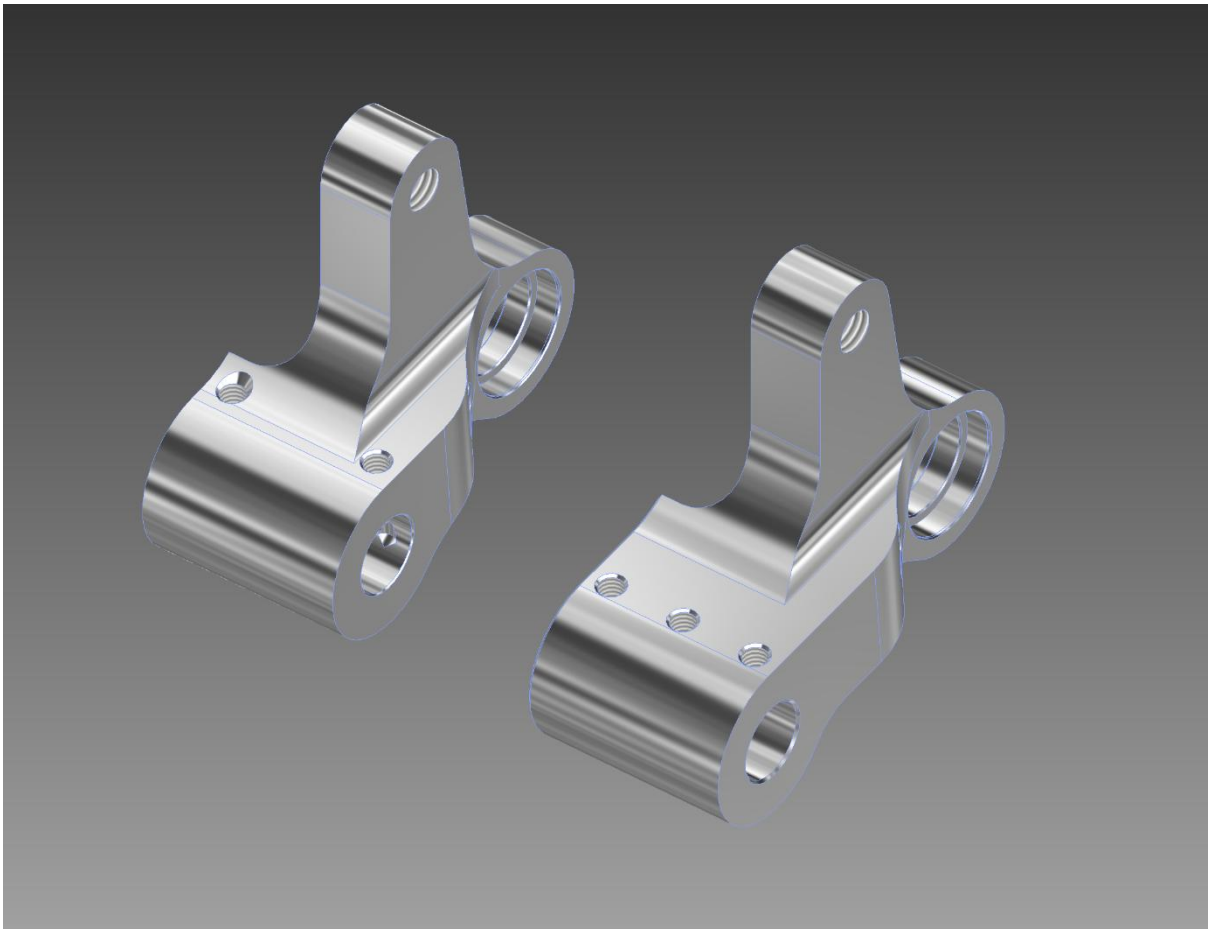


Muncie


383707
LEFT


383707

4. Initailly there was a short and a long throw option for these, the short throw is only suitable for the dog geared 101 but even with that most have preferred the longer throw, If you order a short 101 shifter we will sometimes include the long throw bridge. If you want to swap this out all bolts are held in with Loctite so will probably need heat to release. The type with 2 threaded holes is short throw, 3 holes is long throw. Although these holes are threaded nothing is fitted in them.

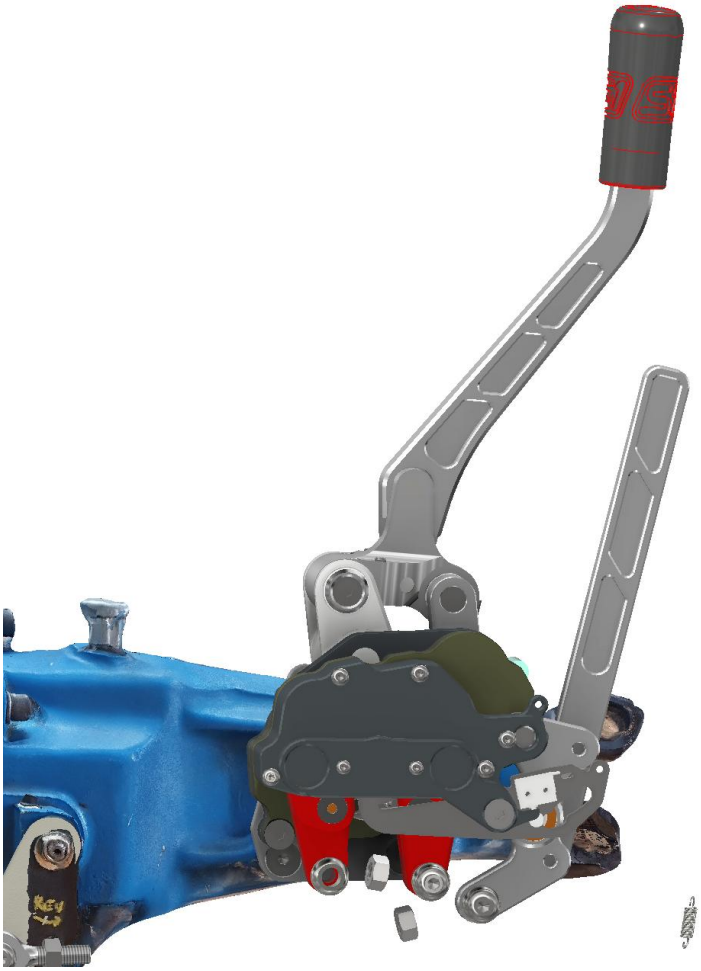


5. Use the m10x25 countersunk bolts to attach the shift lever and reverse lock out lever. The shift knob will screw on with the M12x1.75 stud, the thin shims provided can be used to align the

shift pattern on the knob.

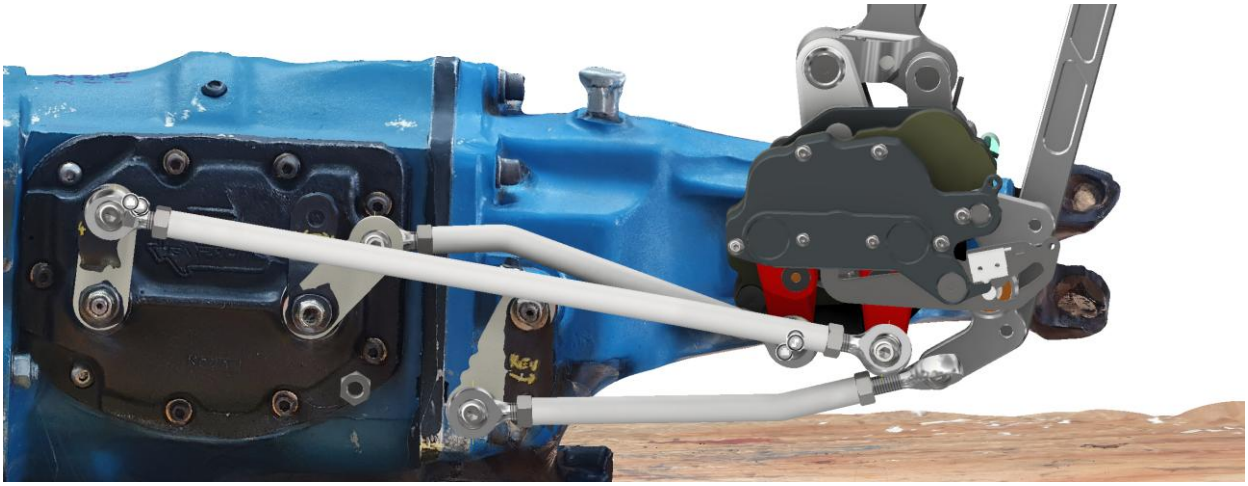
6. Bolt the shifter to the mounting bracket, there are 2 bolts from the front which may require you to shift gears to access, and

one bolt from the rear.



7. Fit the push rods, start with just the 1/2 rod fitted with the rod ends and locking nuts bolt up the shifter end of the rod only and with the shifter and gearbox in neutral (half way between 1 and 2) Adjust the length of the rod until it matched the gearbox shift arm. Now shift the gearbox and shifter to 1st gear and check rod is still the correct length then repeat in 2nd gear. This step is very important, or it could cause problems if the throw is too long or too short. If the throws of the shifter and gearbox match tighten the locking nuts and repeat for the 3/4 gears. Please note that until the locking nuts on the rod ends are tightened they seem to shift poorly, Loctite should be fitted to the thread under the locking nuts.

If they do not match we have adjustable arms that can work out this problem. Please take care with this, these gearboxes have been around for many years with many variations wo we can't be sure what we will find out there, but to date all anyone has had to do is slightly elongate a hole which is probably the result of a thicker shift fork pad in a rebuild.



8. Fit the reverse gear rod, the fitment of this is less critical but on the shifters with the reverse lock out mechanism pictured above you will have to adjust so it operates correctly. When the lever is pushed forwards to select reverse (101 and Muncie, or pulled back toploader) the arm will raise to block rotation of the main shift cam. This also activated the reverse switch.
9. Check that it shifts through all gears and functions correctly
10. If you have a question, please ask and send photos to info@s1sequential.com

Gear position sensor and indicator fitment

The sensor should be mounted so that it does not cross 0V while in operation although as long as 0V doesn't line up with any gears it will function fine. To determine the correct position it is best to use a multimeter between the white signal wire and ground to ensure the sensor is positioned so it will not cross the zero spot in operation

where the output will instantly jump from a low to high voltage. The sensor is secured with the supplied 4mm screws.

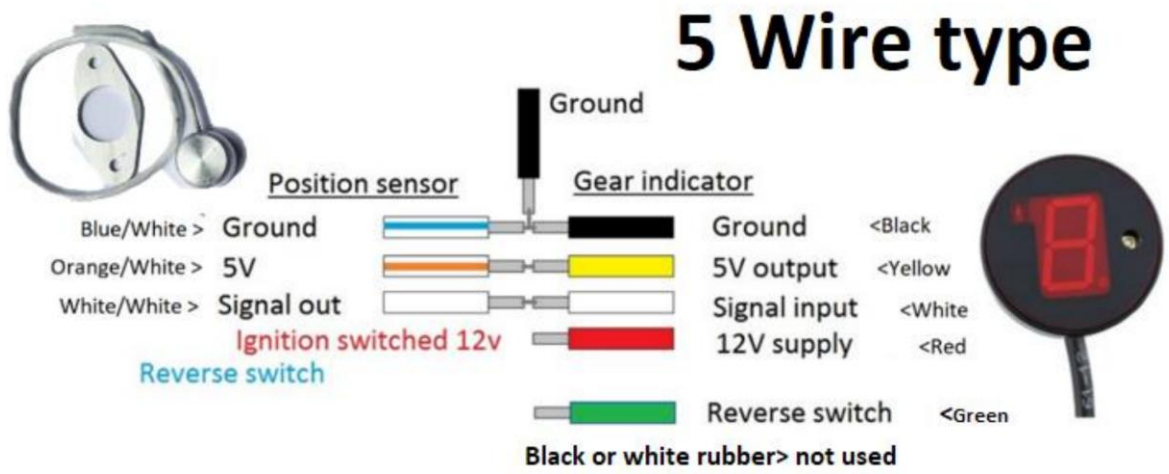
This is an analog 5V sensor any more than 5V will break it. The output will change with position. Internally it is not a resistor but a hall effect sensor that reads off a magnet inside the shifter.

If you are wiring this to an aftermarket ECU or dash you will need there instructions for this, we cannot advise on how to program other peoples products.

Mount the gear indicator in the desired position using double sided tape or the gauge cup adapter and connect all wires as detailed below. Wire Colours Black = Ground Red = 12v (ignition switched maximum 18 V) Yellow = 5v output for position sensor White = Signal input (signal output from sensor) Green Wire Green = Reverse input.

The reverse switch on the v2 shifters can be normally on or normally off depending how you wire it, beep it out with a multi meter to see what suits your set up. But if you have no idea what to do here just wire 12v to the middle pin then wire the outer pin than sees 12v only when you are in reverse to the green wire on the gear indicator.

5 Wire type



Programming

1. Hold the programming button down before and during turning the power on this will put the gear indicator into programming mode. The programming button can be accessed through the 4mm hole on the front of the gear indicator. This should be done with a nonconductive object to prevent any accidental damage.

2. The gear indicator will now pulse the gear it is waiting to be entered starting with neutral.

3. Select the gear displayed on the shifter/transmission then press the program button to set the position in the gear indicator. Its best to do this with the engine running and to release the clutch slightly each time to ensure the gear is fully engaged,

4. Once you have programmed the number of gears your transmission has turn off power to the gear indicator for all the settings to be saved.

5. Reverse can be displayed my either a high or low power (under 1V=low, over 4V= high) on the green wire this will come from the reverse switch. The reverse input will override all other gear position displays. The reverse switch has 3 wires, test them with the multimeter to word out what's happening and wire so that 12v goes to the Green wire when reverse is selected.

To select positive or negative trigger press the program button for 1 second any time at least 5 seconds after power on and the input trigger behaviour will switch. When you select positive trigger, the display will flash "P" with you select negative trigger the display will flash "N". If you're not sure what to do and you definitely have a reverse switch wire that changes when reverse is selected just try pushing the button at least 5 seconds after power on and see what happens.

Trouble shooting

Gear indicator does not light up: Check that there is at least 10v between the black and red wires.

I program the gear indicator, but it does not save: Check that the sensor output changes with gear position (measure between black and white wires). Check that the Yellow wire to the sensor has between 4 & 5 volts (measure between black and yellow wires).

Gear indicator only shows “R” or “A”: This is the same letter the “A” is the closest we can get to an “R” on the sevensegment display. The “R” will mean that the reverse input is triggered so invert its behaviour by pressing the program button for one second at least 5 seconds after power has been switched on.