

Shifter plate

The plate has the grooves that move the shift forks as it rotates.

34012-52
1952-1971

34012-52C
1972-1976

34012-75
1977-1978

34012-75B
1979-1984



The Iron Sportster trap door assembly holds the mainshaft, countershaft, and shifter mechanism.

This plate, often called a "cow paddy" shifter due to its flat shape moves the shift forks into position as you go through the gears.

Big bikes used a similar system before adopting a barrel cam. Evolution bikes use a barrel cam as well, one that the forks mount on.



The Iron Sportster shifter comes as the 34009-52 assembly.

34012-52

1952-1971



The early plate has two located holes probably used during manufacturing. The weld of the plate to the shaft is uniform and circles the entire shaft.



The boss in on the shaft is continuous and there are two "ears" where the detent cam runs. Here detents are 4th, 3rd, 2nd, neutral and 1st from left to right.

34012-52 (cont)

A better view of the ratchet dogs that get yanked on my the shifter pawls. Similar to a spline, but with a unique profile to suit the pawl's engagement.



A 3/4 view shows the diligent welding and the sharp edges of this early shifter cam plate.

34012-52C

1972-1976



The -52C plate is cost-reduced, being made from a single press blanking operation. Note the rounded edges compared to the early plate. The full-circumference weld is replaced by two tack-welds. One of the "ears" disappears, not sure why.



Backside shows shaft has a chunk missing.

34012-52C (cont)

A better view of the ratchet dogs. They appear equivalent to the earlier dogs. The "C" letter suffix in the -52C implies this plate will retrofit with the earlier plate.



The -52C plates have a big chunk missing from the shaft collar. This may be a function of the upsetting or forging operation, it is hard to believe Harley engineers were just trying to save a few pennies of steel. Its a puzzlement.

34012-75

1977-1977

This part most likely has a shorter shaft so it can clear the shift rod that comes out the left side starting in 1977.

34012-75B

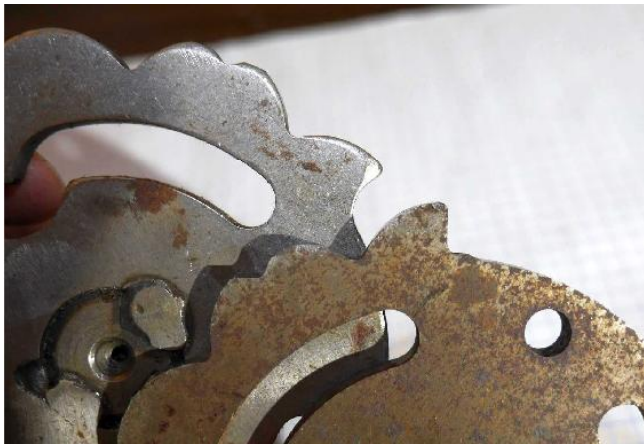
1979-1984

The factory changed many of the parts in the transmission for the 1979 model year, for no apparent reason.

Comparison views



The earlier version on the right has sharper edges, and no chunk missing from the shaft collar. Later part also lacks the two locating holes.



This view highlights the sharper edges on the earlier part on the right. Either the earlier part was done with wire EDM (electrical-discharge machining) or post-machined, or fine-blanked, which is hard to believe for such a thick part.