



Until a couple years ago I had never heard the term Easy Steer regarding the Allis-Chalmers WC. Depending on what ground you were in or if you had something heavy on



This is a 1937 WC with factory WC gears.

the front of the tractor, they were very difficult to steer especially if you were not moving. Upon hearing the term Easy Steer one might think it was power steering that was being discussed, what else could make it easier to steer. Turns out, back in the



Side view of the worm engaged with worm gear.

day there was an aftermarket company that thought there could be money made selling a different ratio steering worm. The factory steering on the WC takes only 31/4 turns of the steering wheel to go from all the way left to all the way right. After hearing about the Easy Steer I had to go out and check all the WC's and RC's I had just to see if there was anything different about them. At the time including parts tractors I had six WC's and two RC's. Well, I lucked out, one

of the 1939 parts WC's I had picked up because it had a couple nice pieces of sheet metal - it didn't even have any wheels – took $6\frac{1}{2}$ turns, 7 if you count the slop in the worn out U-joint.



The Easy Steer in my 1939 parts WC when first opened up.

Now I had to take this apart and see just what I had. A quick peek is easy, just removing the 4 cap screws on the cover plate over the front end and you can see the steering worm. It looked like it had finer teeth but since it had been a while since I had seen a



All three parts of the kit are stamped PAT. PEND but no manufacturer name.

factory gear I had to open one of those up too. It indeed had more teeth. The Easy Steer had 17 teeth on the worm gear and a double start worm. The factory setup had 11 teeth on the worm gear and also used a double start worm. To easily get a gear ratio, the worm gear would need teeth all the way around. Looking at exactly

half of the worm gear with teeth and doubling it we get 18 for the factory setup and 32 for the aftermarket, or ratios of 9:1 vs. 16:1 since both worms are double start. This is not



Here we can see how the gears mesh together.

exactly double the factory setup so why was I counting double and maybe even a bit more? I found out when I took it all apart and cleaned it up, the cast stops in the pedestal were broken allowing it to turn sharper than it would from the factory. The



Top view of the Easy Steer worm gear.

bearing bracket that holds the worm in place is also part of the kit. The bearing cup is eccentric to the mounting holes so the depth the worm engages into the worm gear is adjustable.

Gerald Shudy then showed me an ad he had from a 1954 Tractor Supply catalog for a single start steering worm for the WC. This would exactly







The bearing bracket with eccentric center bearing cup.

double the turns from full left to full right, without changing the worm gear. The gear ratio would be 18:1. Since what I had on this parts tractor was different it meant at least two manufacturers supplied a replacement steering ratio for the WC.

Allis-Chalmers must have decided the original WC steering ratio was too low as well since they changed the WD to $4\frac{1}{2}$ turns side to side and didn't offer the old ratio for the WC anymore. I'm not sure when that change happened but here is the information



The ad from a 1954 Tractor Supply Company catalog.

from these parts books: *A later WC Parts Book:*

201111 WORM, steering (Worm 220662 and Gear Assy. 220675 available if higher steering ratio is desired).

203464 GEAR ASSY., worm (Inc. STOP) (Separate stop lugs or gears for these used prior WC-2830 not available; use 203464).

Original Gear not available; furnish one each of Gear assy. 220675 & worm 220662.

The WD/WD-45 Jan 1965 Parts Book. 228433 WORM, steering (Supersedes 220662)

228437 GEAR ASSY., worm (Inc. STOP) (Supersedes 220695)

Anyone that has driven a WC over rough plowing can probably remember the front end being able to force the steering wheel to turn quickly bouncing its spokes into your fingers if you weren't holding on tightly. Trying to turn the wheel

while stopped also was a task for strong arms. These were reasons for wanting an easier gear ratio. Though the factory setup had its advantages for turning on a dime while cultivating in order to quickly head back down the field on the next two rows. This is just one more reason to go out and visit all your old WC's to count the turns of the wheel while sitting on them nostalgically. The difference may never be noticed while driving them in a parade.