Back in Gear

A missing reverse gear brings a 1966 Harley-Davidson Servi-Car into the RiE-Store workshop. Getting it to go backwards is the first task, but a closer inspection reveals several more things to put right before this distinctive three-wheeler is ready to move on.

With its black-and-white paint, screen and police equipment, it has plenty of presence. The owner has developed the police theme around an existing police speedometer. Beneath that appearance is an unusual combination: a motorcycle front end, a chain-driven rear axle with a differential, and a large rear box mounted on its own springs.



The 1966 Servi-Car, finished in black and white with police equipment.

That last detail matters. The rear chassis is rigid; it is the box that is sprung, while the rider has a sprung saddle. When the box moves, we need to establish whether it is moving as intended or because something is loose. Ash finds enough movement to warrant a proper look underneath.

The inspection follows the workshop's revised check sheet. Tyres, brakes, bearings, forks and headstock all have their place on the list. It is a simple way of keeping track of what has been checked, what needs attention and when the work was done. Even familiar jobs benefit from a written record.

The rear wheels provide one clear reason to keep looking. Pulling on a wheel reveals audible movement at the axle. Ash identifies excessive end float - movement along the axle's length - but the cause and adjustment still need investigating. The hydraulic rear brakes add another element to the job.

The engine, meanwhile, had started but would not run properly. After some attention to the carburettor, we see it running in the workshop. Reverse is now working too, resolving the complaint that brought the Servi-Car in.



Ash demonstrates the Servi-Car during the workshop assessment.

There is still a conspicuous rattle from the clutch, however, and the gear linkage raises another question. Its rod is bent where it should be straight, suggesting that the mechanism has been forced. Ash wants the clutch casing out of the way so he can assess the gear change properly, rather than assume where the resistance originates.

At the front, the loose headstock has been tightened and the brake adjusted. The steering damper is missing parts, including friction discs that still need sourcing. Ash is cautious about taking the machine faster while those front-end issues remain. The throttle cable also needs a small alignment adjustment.

The police fittings offer a diversion, including a siren driven by contact with the front tyre. Some lighting and indicator questions remain, but extensive wiring work is outside the owner's current brief. The focus stays on the mechanical work the Servi-Car has come in for.



The rear axle and differential, beneath the independently sprung box.

Next, the rear box needs to come off. With the brakes and hubs removed as required, Ash can investigate the axle clearance and find out exactly where the unwanted movement is coming from.

We finish with reverse restored and several useful adjustments made, alongside a clear plan for the remaining work. The check sheet has helped turn a single complaint into a fuller picture of the machine. Now the next stage is to get underneath it and establish what the rear end needs.