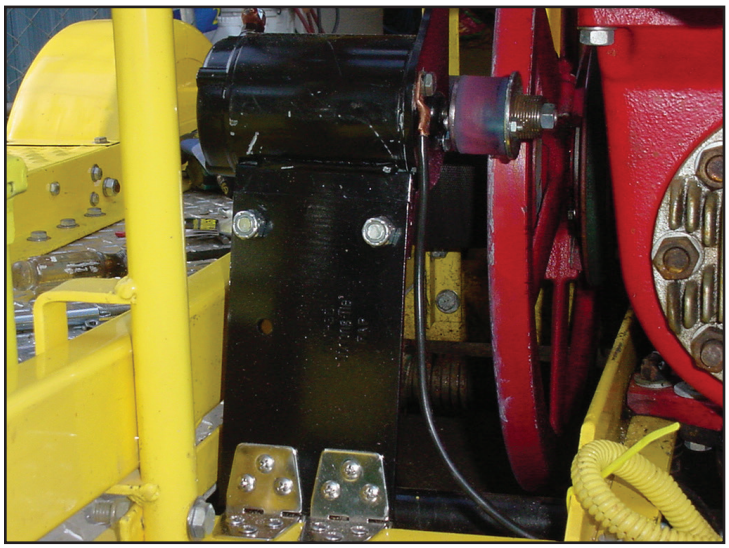
Electric Starter for an RO-C

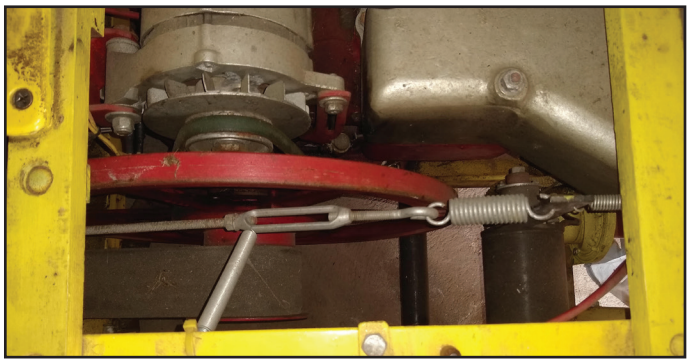
By Rob Baur

Fairmont offered a rare option for an electric start for the RO-C engine. It had a special flywheel with a V groove cut in it and a starter motor with a rubber disk with a matching V profile. A lever connected to the motor with a spring was pulled back to press the rubber disk into the groove. As the lever was pulled further back, it pressed a switch which energized the starter.

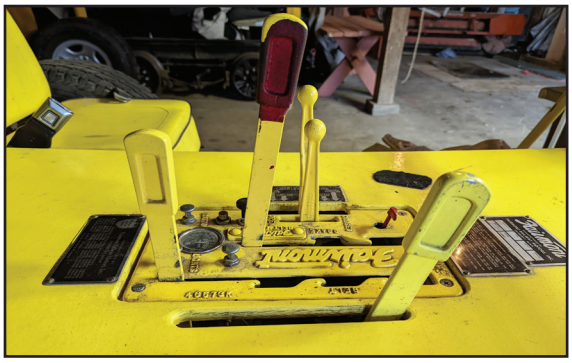


I devised something similar for an unmodified flywheel using a Club Cadet starter motor and a skateboard wheel. I mounted the starter on a hinged plate and attached a used Fairmont lever. I drilled the end of a left-handed tie rod and connected it to the starter shaft. (I used a left-handed tie rod end and nut to avoid it unscrewing when operating.) I chose the softest skateboard wheel I could find and machined its diameter down to increase the "gear" ratio. The wheel was put on the shaft with washers on both sides. I installed screws through the washers and wheel to transfer the torque to the wheel. In needed to reverse the rotation of the starter, so I swapped the + and - brush positions on the armature. I used a floor mounted starter switch from a 50's pickup at the end of the lever's travel to connect power to the starter. A heavy gauge ground wire also is fitted so current doesn't go through hinges. It cranks the RO-C at around 300 rpm.

A piece of copper tubing cut in a 'V' shape was added over the starter switch to capture the lever. V bracket on right keeps the lever from going too far forward.



Turnbuckle adjusts spring tension, small spring at left keeps linkage from rattling against flywheel and a third spring pulls the starter forward.



Occasionally I need to clean the flywheel and skateboard wheel with brake cleaner to remove oil flung from the crankcase seal. When waiting for the consist to gather for a crossing I can kill the engine and restart without having to leave my seat. I get some double takes when someone notices an extra lever sticking out of the doghouse.