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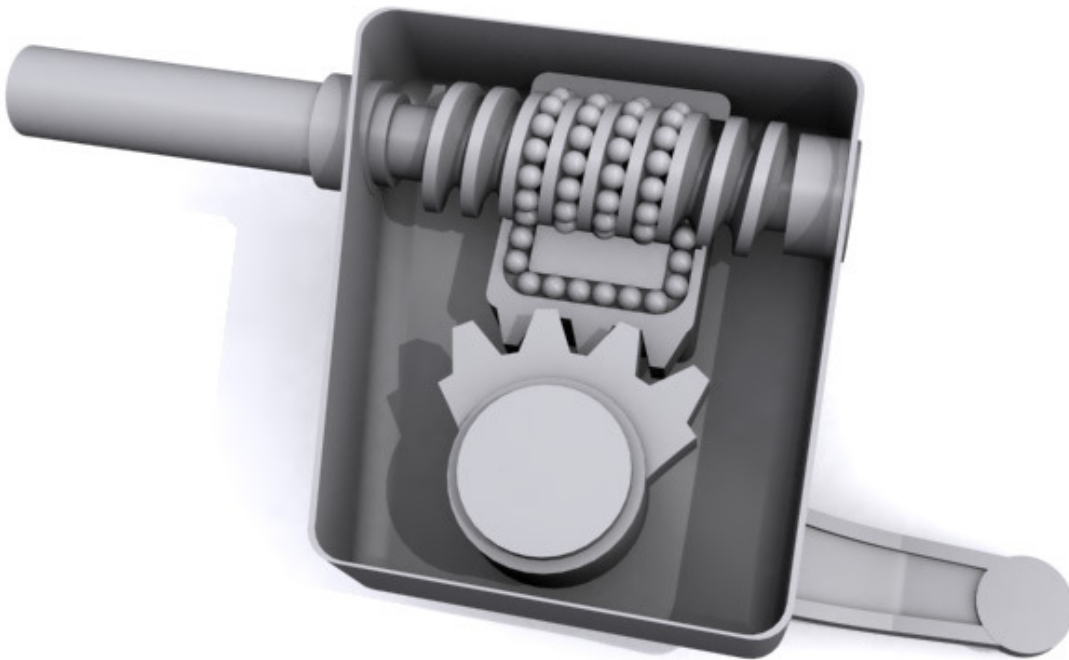
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### Steering Ball Nut Explained

**Solution**

This is by far the most common type of steering box for pitman arm systems. In a recirculating ball steering box, the worm drive has many more turns on it with a finer pitch. A box or nut is clamped over the worm drive that contains dozens of ball bearings. These loop around the worm drive and then out into a recirculating channel within the nut where they are fed back into the worm drive again. Hence recirculating. As the steering wheel is turned, the worm drive turns and forces the ball bearings to press against the channel inside the nut. This forces the nut to move along the worm drive. The nut itself has a couple of gear teeth cast into the outside of it and these mesh with the teeth on a sector gear which is attached to the cross shaft just like in the worm and sector mechanism. This system has much less free play or slack in it than the other designs, hence why it's used the most. The example below shows a recirculating ball mechanism with the nut shown in cutaway so you can see the ball bearings and the recirculation channel.



sc-1550 sc-4440 sc-2500

**Attachments:** [worm\\_and\\_nut.jpg](#)

**Article details**

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