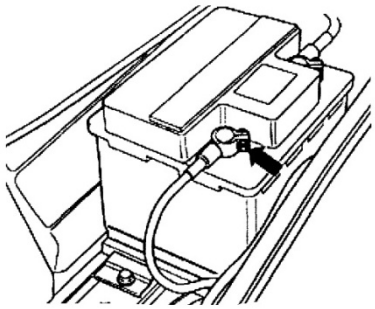
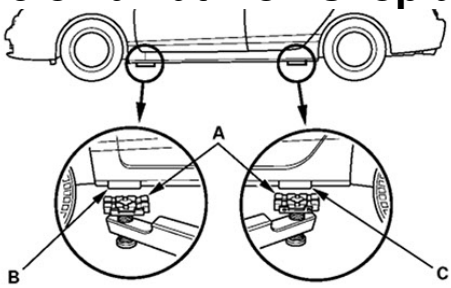
Installation Instructions
RRS Manual Rack & Pinion Steering Kit

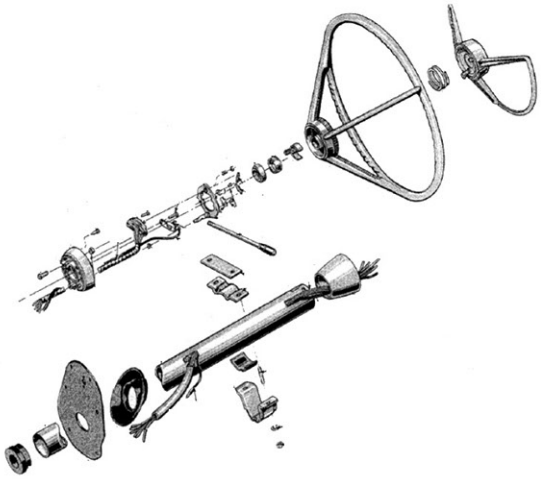
STEP 1: Immobilize Vehicle by disconnecting the battery.



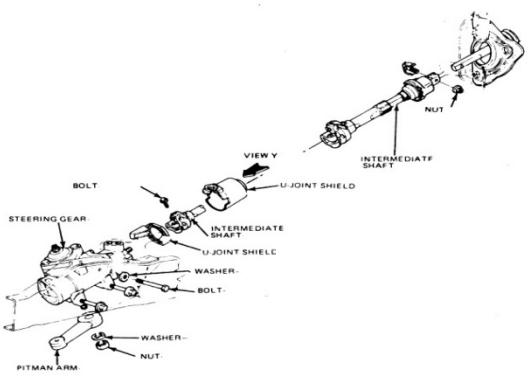
STEP 2: Jack up vehicle on a flat workshop area.



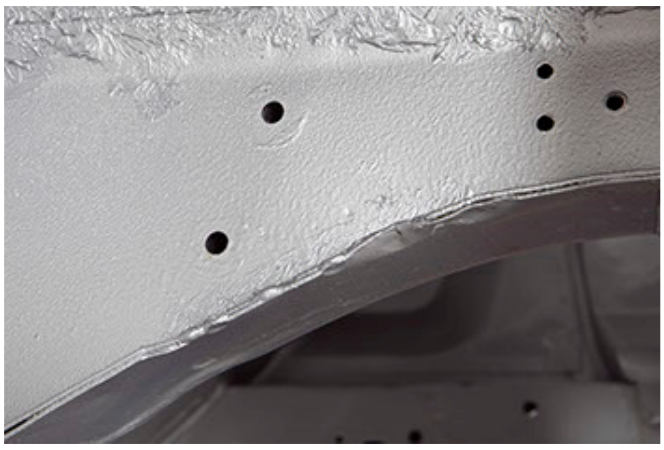
STEP 3: Remove steering column as per factory repair manual.



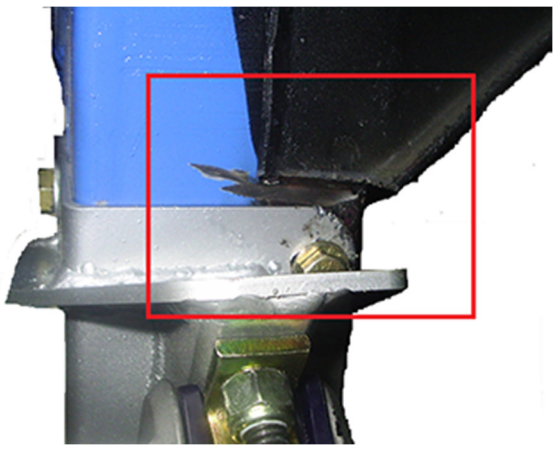
STEP 4: Remove steering box, idler arm and drag link as factory repair manual.

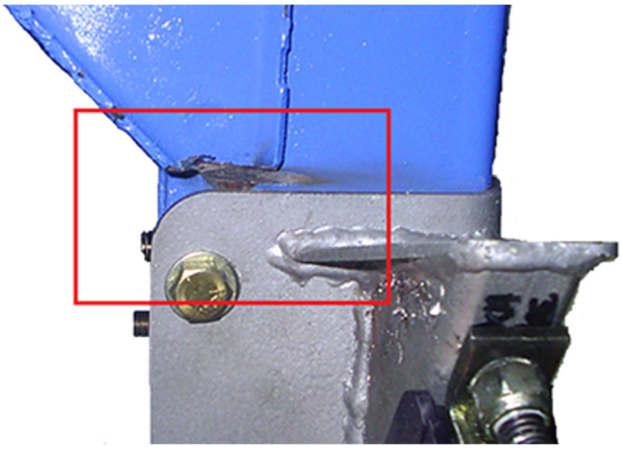


STEP 5: Make sure all OEM steering box, Idler arm bolt holes and chassis rails are in good order and free from burs, obstructions or damage.

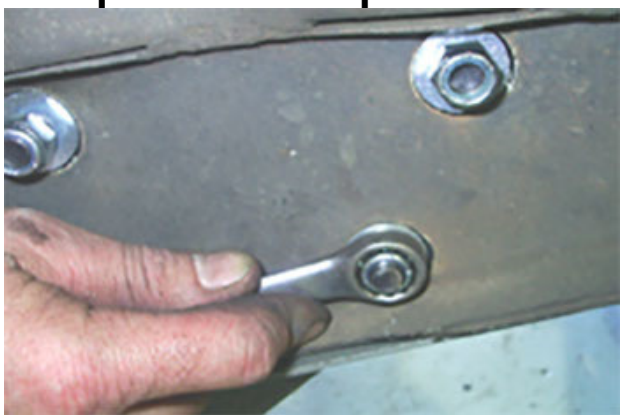


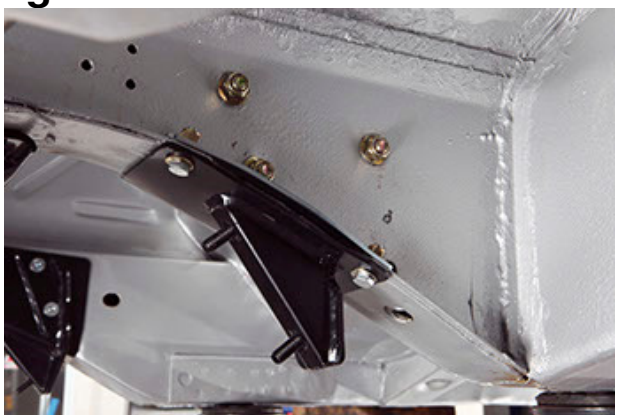
Important Note Australian Falcon models XB, XC, and XD chassis gusset will require a small amount of trimming to provide adequate clearance for the RRS rack brackets.





STEP 6: Install RRS conversion brackets onto the chassis rails and torque bolts to specified settings.

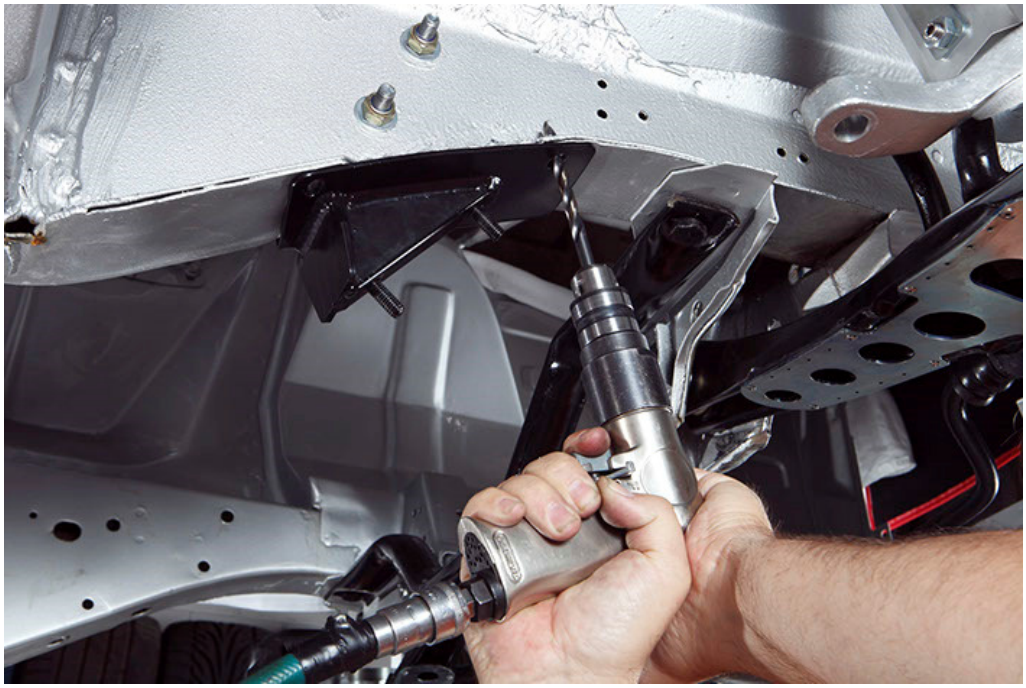




The Steering box nuts and bolts torque settings are 40ftlbs 55nm.

The Idler nuts and bolts torque settings are 30ftlbs 38nm.

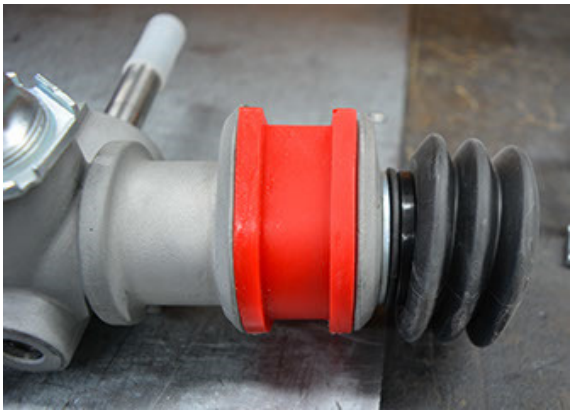
STEP 7: Using the bracket as a template drill chassis rail edge with a 8mm drill



STEP 8: Fit load spreader plate

The load spreader nuts and bolts torque settings are 18-20ftlbs 22-24nm.

STEP 9: Fit rubber insulators to rack

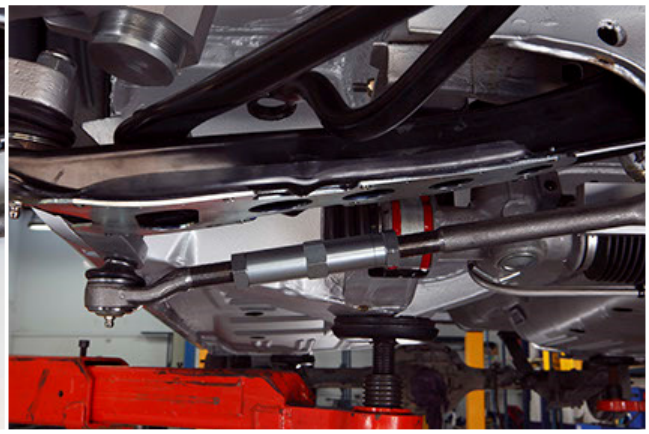


STEP 10: Fit U clamps around rack rubber and fit to up to rack checking alignment is correct to rack. If rack does not line up stop and call RRS.



STEP 11: Install rack tighten until rack is firm against mounting bracket


STEP 12: Connect tie rod ends making sure adequate thread engagement into sleeve



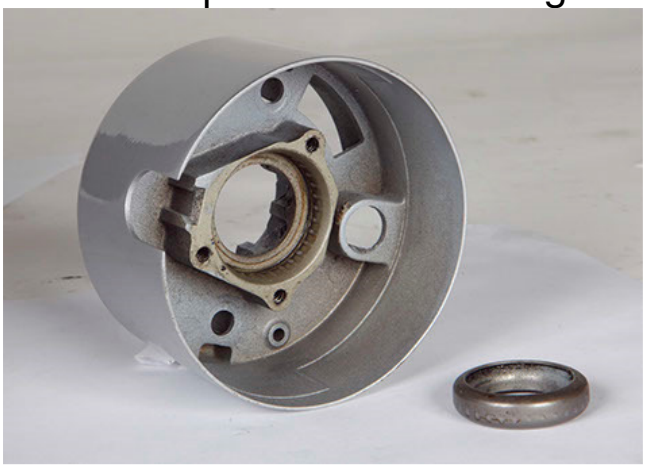
STEP 13: Tie rod end adjusters must be adjusted to allow equal range of movement (rack is centred). The linear tacking is pre-adjusted and is offset. *Do not use the linear tracking as guide to centre.* With the outer tie rods not connected turn the wheel to full lock then full lock the other way, calculate centre (half the lock to lock turns).

Note: The RRS rack and pinion has built in steering stops and therefore OEM stops can be deleted

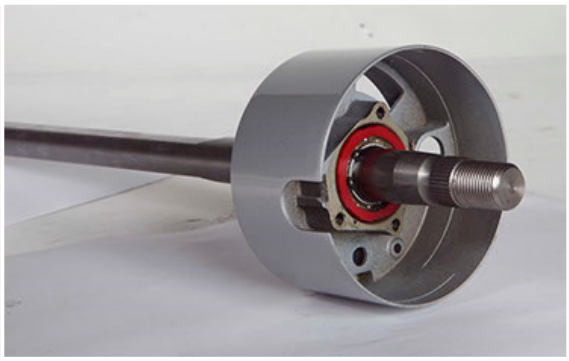
STEP 14: Modify steering column according to the type of column your car has fitted.

Non-collapsible columns

Non-collapsible columns have a press fit bearing below the indicator mechanism,
this will require replacement by the RRS top shaft and bearing



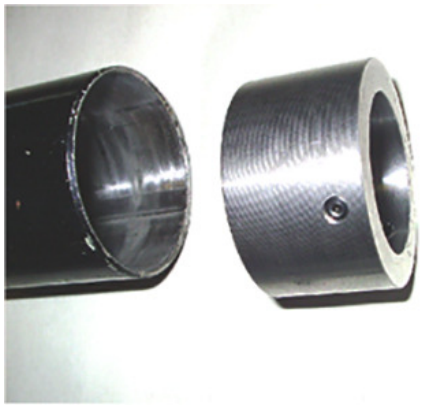
Once column is removed, cleaned and dismantled remove top bearing and casing.
The inner bearing case must be separated from the outer bearing case, which may require grinding the inner case to enable it to be separated easily.



RRS upper internal column shaft and locater bearing and collar.
RRS upper internal column shaft and locater bearing and collar fitted to top of the column.
NOTE: on some vehicles steering wheel to blinker housing interference may occur, this can be remedied by either cutting back the die cast blinker shroud or cutting new circlip grooves in the steering shaft further down.

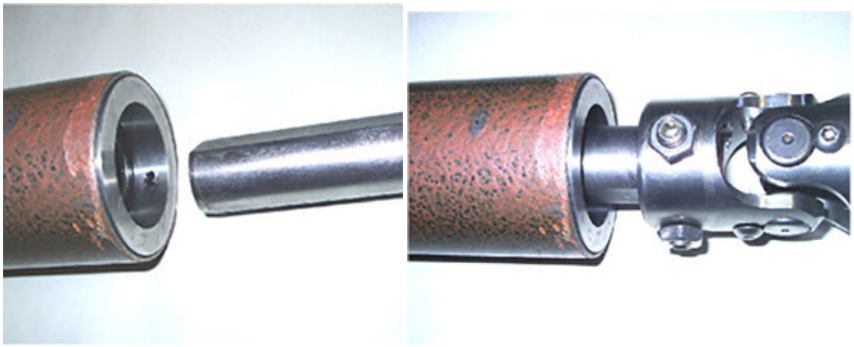
Check the base of the column and mark it to be flush with the fire wall.

Cut column to length, de-burr and clean cut, remove scam ridge if necessary.



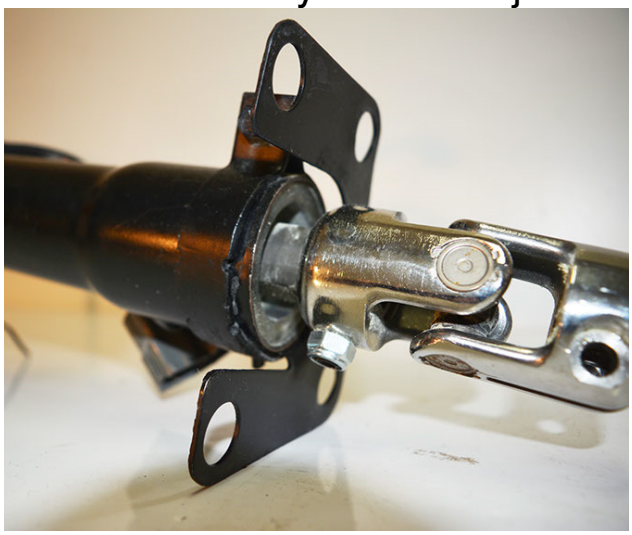
Lower column bearing mount Lower column bearing mount, being fitted to shortened column. Tighten grub screws to secure in place.

RRS lower column shaft, upper uni, intermediate shaft and lower uni.



Slide RRS lower column internal shaft into bearing housing. Slide RRS lower column internal shaft into bearing housing engaging at least 75ml of upper shaft.

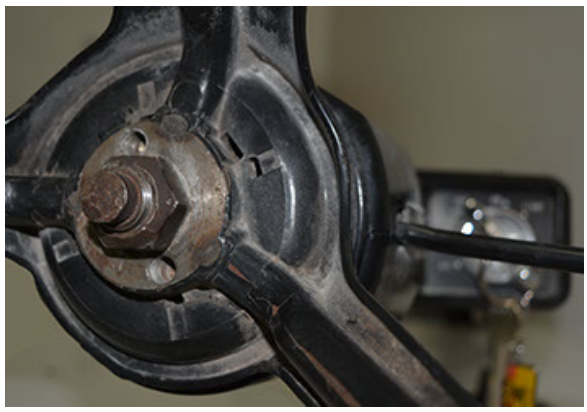
Once the column is completely assembled and installed, a lower column support plate, which is provided by RRS, if applicable to your vehicle. You may need to drill your column support plate and mount it to floor. This required to be fitted in such a way as to provide a secure anchor point that will correctly align the steering universal joint (so as not to cause any universal joint bind)



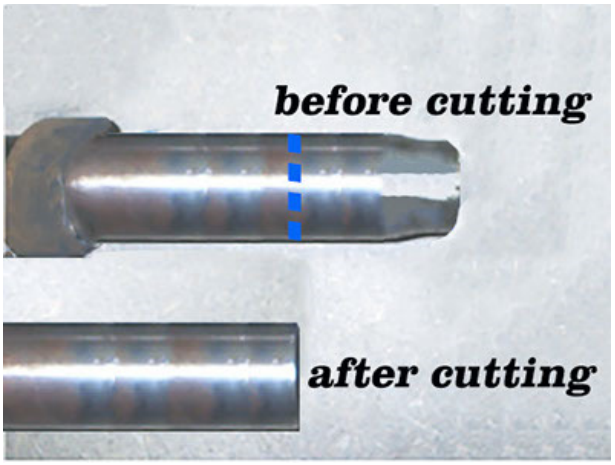
The column is now ready to fit back into the vehicle

Double Tube collapsible columns

Double tube collapsible columns are most easily identified by a corrugated lower outer column case.

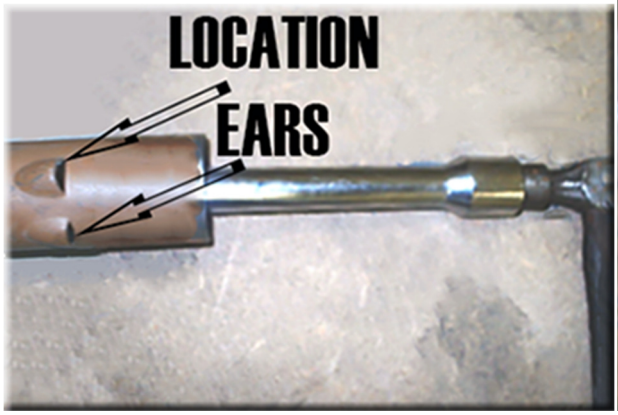


Internally is another telescopic tube through which the steering shaft passes.The upper internal shaft and upper bearing remain unchanged.



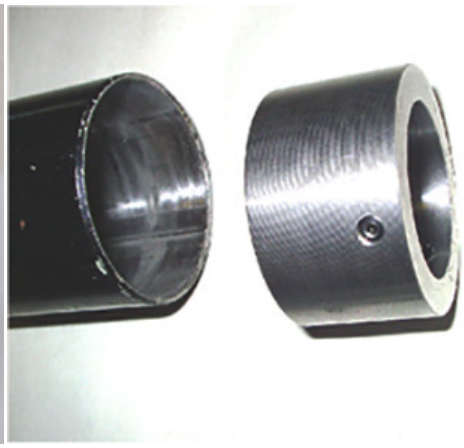
It is necessary to completely dismantle this type of column so that the inner tube can be shortened 3.5".
The end of the outer column that protrudes through the firewall must be shortened 1 ½ inches

Cut column end off and deburr. Install RRS support ring for inner tube location.



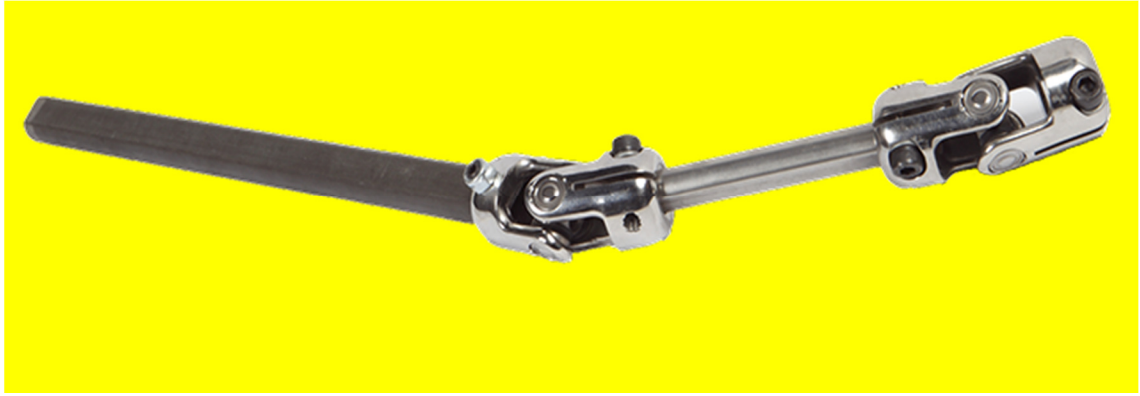
Fit mount into place so that it is 2mm to 3 mm (1/8” to 3/16 “) past the location ears on the outside of the column
The mount in place should look like this. Then reassemble the entire column ready for the installation of the RRS lower column shaft and bearing mount.

Lower column bearing mount



Lower column bearing mount, being fitted to shortened column.

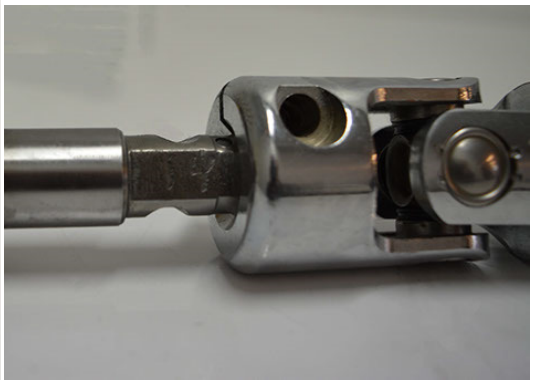
Tighten grub screws to secure in place.



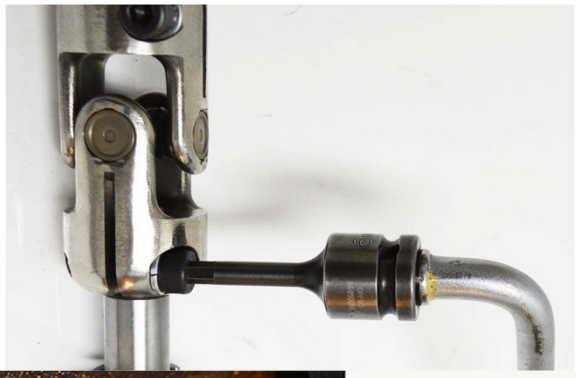
RRS lower column shaft, upper uni, intermediate shaft and lower uni.

Slide RRS lower column internal shaft into bearing housing engaging at least 5" of upper shaft.
Column end should look like this after installation. Refit steering column, anchor lower column mount in such a way that no universal bind occurs.

STEP 15: Install steering uni's and intermediate shaft. Make sure set screw locates into the slot on shaft

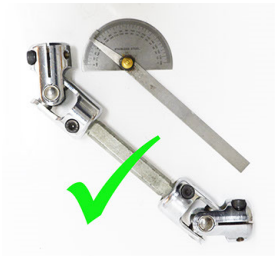


Step 16: torque set screws and nuts to specified settings 32 lb/ft and secure with a thread lock solution such as Loctite



Step 17: The universal joint alignment is determined by adjusting the steering column position in the firewall opening.
If the column is too low or too high in the firewall uni-joint misalignment will occur causing uni-joint bind with typical feel of notchyness or a binding spot as the steering wheel is turned.

Correct uni-joint alignment is achieved when both uni-joints are at the same angle, and that angle is 42.5° or less



Step 18: Set wheel alignment and road test.

Wheel Alignment Guidelines

Without **RRS** Strut Conversion
Camber +¼°
Caster +1½°
Toe in 2mm

With **RRS** Strut Conversion
Camber -¼°
Caster 3¾ to °4¼°
Toe in 2mm

Caster should be calculated with the following turntable position
Toe out on turns. With the inner wheel at 20° outer wheel 17°to 18°(note some wheel alignment machines use different toe out on turns setting: - therefore caster angle requirements may be reduced 1°to 1 ½ ° to obtain accurate track on turns).

Fitting an ***RRS*** GT rack will keep the stock turning circle in your classic Ford, with the exception of XK-XP(1960 – 1966) Falcons and 1966-68 Mustangs that do not use the ***RRS*** strut front end - the turning circle in these vehicles may be increased by less than 8%).

RRS rack & pinion system 5 year warranty. Warranty is void if not installed correctly, as per RRS instructions. Please ensure RRS recommended wheel alignment is followed by your wheel alignment specialist.

RRS strives for trouble free and quality outcomes therefore it is our wish that you will take the time to make any comment about our products and outcome of your particular application

WARNING: Important Note: Centre bolts that mount drag bar into rack housing should be re-torque at least 3 times e.g. 600 miles (1,000 km) each or every three (3) weeks after installation of **RRS** rack & pinion to ensure rack slider seating 60 – 65ftlbs 90nm. For technical assistance contact **RRS**

RRS will void warranty claims that are the result of using a damaged or defective power steering pump. Warranties are void if thread and bolt seals are disturbed on power head

RRS Safety First and Warranty Conditions

RRS has quality products designed and tested for specific usage and application. RRS products will enhance all normal street usage situations provided that they are installed according to RRS instructions as laid out in the installation manual. RRS provides proven and predictable outcome for RRS product application.

The duty of care of correct and safe installation is the sole responsibility of the installer. If incorrect installation or product application takes place, for whatever reason, the vehicle will not be deemed road worthy under any circumstances and it should be noted that RRS is not responsible for any adverse outcomes resulting from

1. Choosing an incorrect product application.

2. Installing an incorrect product application.

3. Modifying any RRS products in any way.

4. Not following RRS installation procedures.

5. Not filling out the RRS safety and warranty card check list.

6. Not following RRS maintenance procedures.

7. Using non-compatible components to RRS products that are not within the RRS specifications.

8. Using a vehicle fitted with RRS products in any off road activity.

9. The safe usage of RRS products becomes the sole responsibility of the end user once the warranty period has expired. RRS warranty as of 2015 is 5 years on suspension, steering and under-dash booster systems.

10. The RRS product has not been subjected to conditions beyond those, which was intended such as being used in any form of motor sport.

11. That the installation of any RRS product that has not been checked by a qualified technician.

12. RRS will not be held responsible in any way shape or form for any activity that may require dismantling, reassembly, overhaul and or modification to any RRS product.

RRS is excluded from any responsibility or adverse outcomes that may result from any unusual adverse weather conditions or any adverse road surfaces that could promote rapid wear or fatigue.

Safe driving and road-worthiness is the sole responsibility of the installer and technician who signs the warranty and safety first checklist.

It is necessary for this checklist to be returned to RRS within 30 days of completion

All RRS products incorporate the most advanced quality and manufacturing process available. RRS designed products solve complex problems with simple solutions

RRS advise any steering and suspension modifications to your vehicle must be inspected by a certified engineer to comply with state regulations

Recommended power steering fluid for RRS rack & pinion -product code #ESF001

DO NOT USE SYNTHETIC OIL IN RRS RACK & PINION SYSTEM