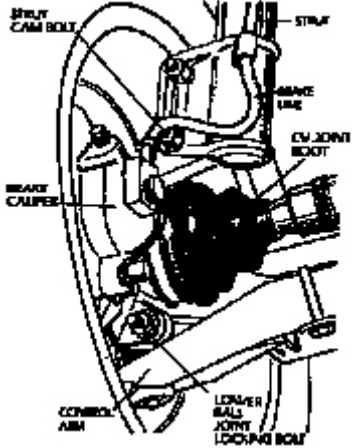
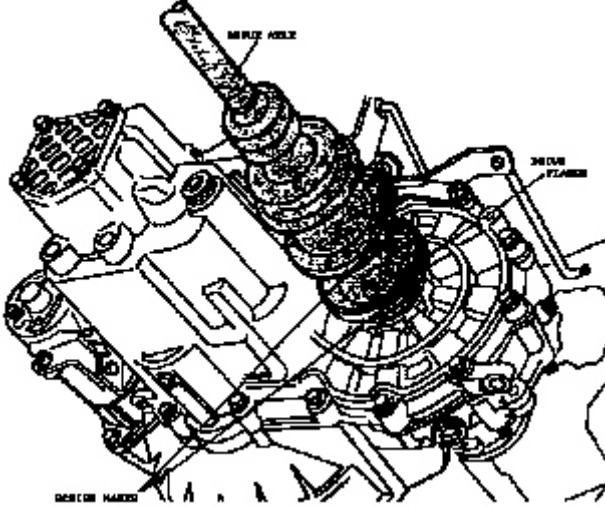


LAB - CV Joint Service

Students: 1. _____ Date: _____
 2. _____ Block: _____
 3. _____

Fill in each box with the appropriate information. Place checks (✓) where applicable

VEHICLE IDENTIFICATION			
Year:		Make:	
Model:		Colour:	
VIN Number:			
SAFETY			
<input type="checkbox"/> Always use jack stands when working under a vehicle			
INSPECTION			(Circle)
Clicking noise when turning? (Indicates a worn or damaged outboard joint - Replace joint)		[YES] [NO]	
Clunk during acceleration? (Indicates a worn or damaged inboard joint - Replace joint)		[YES] [NO]	
A shudder or vibration on acceleration? (Indicates a damaged or sticking inboard joint - Replace joint)		[YES] [NO]	
CV Boot is brittle or hard? (Indicates boot is aged and will fail soon - Replace boot)		[YES] [NO]	
Greasy spray around boot? (Indicates boot has failed - Replace boot)		[YES] [NO]	
Tears or holes in boot? (Indicates boot has failed - Replace boot)		[YES] [NO]	
REMOVAL			
1	Loosen the large axle shaft retaining nut. It is usually installed quite tightly		
2	Jack up the front of the vehicle and place jack stands under the frame		
STOP!!!!			INSTRUCTOR'S SIGNATURE: <input style="width: 100px; height: 20px;" type="text"/>

3	<p>Remove the wheels and finish removing the large nut and washer. Place in a secure place so they don't get lost!</p>	
4	<p>Disconnect the lower ball joint from the hub assembly. Use two hammers and a pry bar to "pop" the taper out once you have removed the nut and cotter pin.</p>	
5	<p>The hub can now be pulled away from the vehicle to remove the axle. Depending on your vehicle, you MAY need to do ONE or more of the following:</p> <ol style="list-style-type: none"> 1. Remove the brake caliper and move away to allow the hub to be pulled. <p>DO NOT hang the caliper by the brake line!!!!</p> <ol style="list-style-type: none"> 2. Disconnect the hub from the strut <p>Mark the alignment of any eccentric bolts!!!!</p> <ol style="list-style-type: none"> 3. Disconnect the steering tie rod from the hub 	
6	<p>Remove the axle from the transmission. There are three common methods to secure the inner joints to the transaxle (check the service manual for your particular vehicle):</p> <ol style="list-style-type: none"> 1. CV is bolted to a flange (merely unbolt it) 2. A stub shaft is held in the differential by a C-Clip (differential cover must be removed, differential cross shaft is removed, axles are slid inward to remove C-Clip) 3. A stub shaft is held in the differential by a spring clip (may require a slide hammer or some prying to release) 	
7	<p>Remove the axle from the hub. By threading the large nut on the end (not tight), this should require merely a tap with a hammer (the nut protects the threads). If not, a puller will be required to push the axle out.</p>	

STOP!!!! INSTRUCTOR'S SIGNATURE:

REPLACEMENT

- | | |
|----|---|
| 8 | Carefully remove the boot clamps taking care not to damage the boot (we will be re-using this boot if this is the school's axle). Push the boot off the joint and toward the centre of the axle to provide room |
| | Remove the CV joint outer housing. Many CV joints require partial disassembly from the axle before they can be removed from the axle. There is usually a large spring clip inside a CV housing that prevents the joint from coming apart.
NOTE which ball when into which groove - misalignment later will accelerate wear!!! |
| 9 | The centre section is sometimes held to the shaft by a snap ring. Remove it to the CV joint from the axle. You may need to tap with a soft-faced hammer to remove from the axle. Sometimes they are pretty tight. |
| 10 | Clean the CV joint with solvent, rinse and blow dry with compressed air
Always use eye protection with solvent and air!! |
| 11 | Inspect all components of the joint for wear, corrosion, etc. |

STOP!!!! INSTRUCTOR'S SIGNATURE:

- | | |
|----|--|
| 12 | Reassemble the components in the reverse order.
DO NOT FORGET THE SNAP RINGS AND SPRING CLIPS!!!! |
| 13 | Liberally grease the joint prior to slipping the boot on. Do not get any grease on the boot sealing surfaces (the clamps won't be able to hold that) |

STOP!!!! INSTRUCTOR'S SIGNATURE:

- | | |
|----|--|
| 14 | Reassemble the axle on the vehicle. Be sure to follow the applicable torque specifications. |
| 15 | You must show the assembled and installed axle to your instructor before the wheels go on |
| 13 | Liberally grease the joint prior to slipping the boot on. Do not get any grease on the boot sealing surfaces (the clamps won't be able to hold that) |

STOP!!!! INSTRUCTOR'S SIGNATURE: