

TOOL USE INSTRUCTION

RIVIAN	TOOL NUMBER	TSN00781
	TITLE	DRIVE UNIT CRADLES
	REV - DATE	REV 4 - 05/26/2026

CONTENTS

[OVERVIEW](#)

[SAFETY](#)

[INITIAL SETUP \(TRANSMISSION JACK\)](#)

[TOOL CONFIGURATION GUIDE \(TRANSMISSION JACK\)](#)

[INITIAL SETUP \(SUBFRAME FIXTURE\)](#)

[TOOL CONFIGURATION GUIDE \(SUBFRAME FIXTURE\)](#)

[MAINTENANCE & STORAGE](#)

[SERVICE & REPLACEMENT PARTS](#)

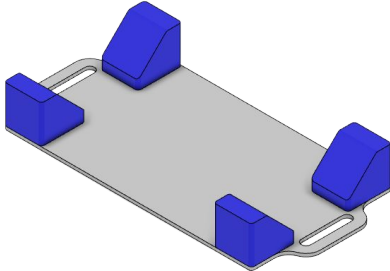
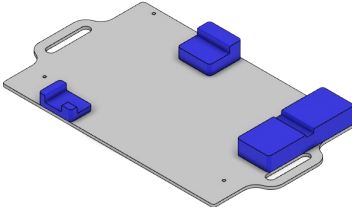
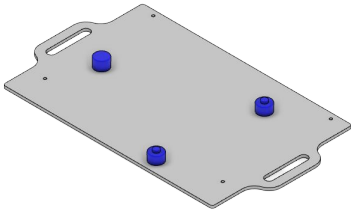
[TROUBLESHOOTING](#)

[SYMBOL GLOSSARY](#)

TOOL FUNCTION

CRADLE PLATE USED TO SUPPORT DRIVE UNIT DURING INSTALLATION/REMOVAL.

- R1 REAR ENDURO (W/O SUBFRAME REMOVAL)
- R2 REAR MAXIMUS (W/O SUBFRAME REMOVAL)
- EDV FRONT ORIGIN AND ENDURO

Origin Cradle	Enduro Cradle	Maximus Cradle
		



OVERVIEW

SPECIFICATIONS

Weight: ~22.7 kg

Overall Dimensions: 576 mm x 387 mm x 404 mm

LABOR CODES

465515011, Subframe, Front (Remove and Reinstall)

381010010, Drive Unit, Front (Remove and Replace)

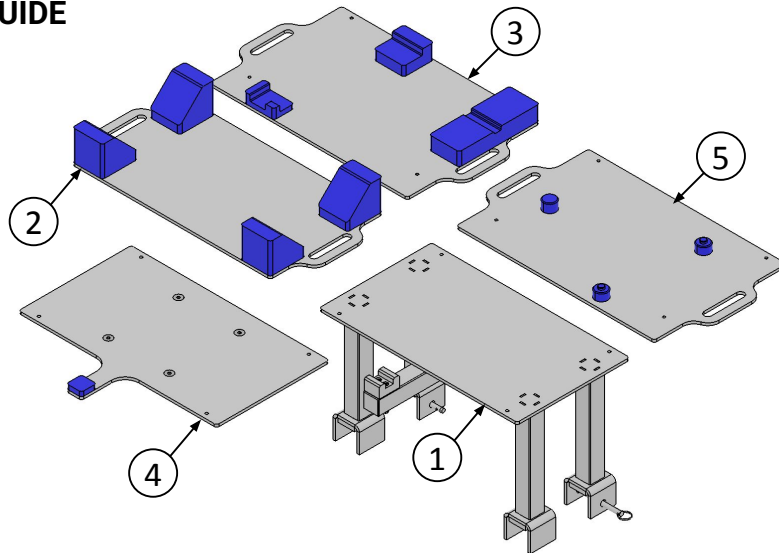
OTHER TOOLS REQUIRED

TSN01432-100-A - TRANSMISSION JACK - 1/2 TON CAPACITY

TSN00542-300-B - SUBFRAME SUPPORT JIG, (R1/RPV)

TSN00483-100-A - POWERTRAIN LIFT, 2500 LB. CAP.

COMPONENT GUIDE



ITEM	QTY	NAME	TOOL P/N
1	1	BASE, DRIVE UNIT CRADLE*	TSN00781-200
2	1	DRIVE UNIT CRADLE, ORIGIN PLATE	TSN00781-201
3	1	DRIVE UNIT CRADLE, ENDURO PLATE	TSN00781-202
4	1	DRIVE UNIT CRADLE ADAPTER PLATE - TRANSMISSION JACK	TSN00781-203
5	1	DRIVE UNIT CRADLE, MAXIMUS RDU PLATE	TSN00781-204

*Discontinued (Only compatible with TSN00542-300 SUBFRAME SUPPORT JIG Rev-A and Rev-B. Use Transmission Jack with TSN00781-203 for new sites)





WARNING

Do not perform procedure if tool is damaged or missing parts. Consult the Rivian Service Tool Catalog for replacement components.

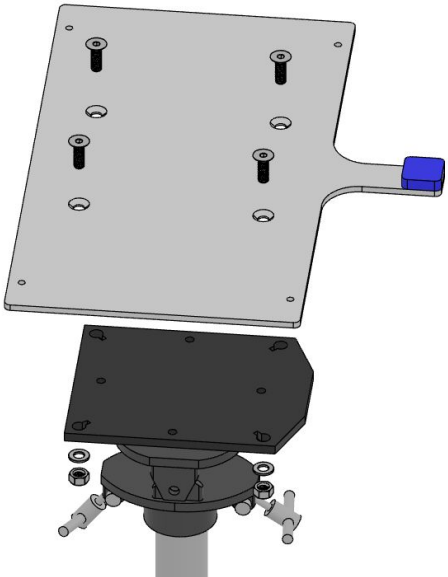
Failure to follow guidelines outlined in this document could result in injury and/or property damage.

SAFETY GUIDELINES

<p>1</p>	<p>PPE Required</p> <ul style="list-style-type: none"> • Eye Protection, Gloves, Closed Toe Shoes 	
<p>2</p>	<p>CAUTION:</p> <ul style="list-style-type: none"> • Risk of damage to wire harnesses and coolant hoses when lowering the drive unit. Use a spotter to make sure all components are clear prior to raising or lowering the tool. 	
<p>3</p>	<p>PRIOR TO USAGE:</p> <ul style="list-style-type: none"> • Visually inspect Drive Unit Cradle Plate for damage prior to use. • Operate the powertrain lift to ensure functionality. Refer to manufacturer's specifications for proper maintenance. • Verify presence of (2x) 7/16" Dia, 3-1/2" long, quick release pins. 	
<p>4</p>	<p>CAUTION:</p> <ul style="list-style-type: none"> • Do not perform procedure if any equipment is missing or damaged. 	

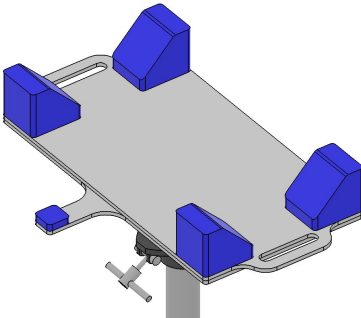
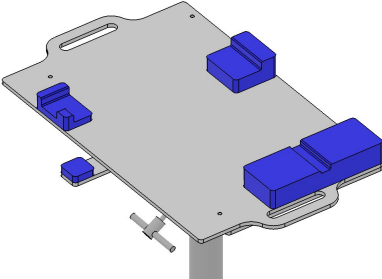
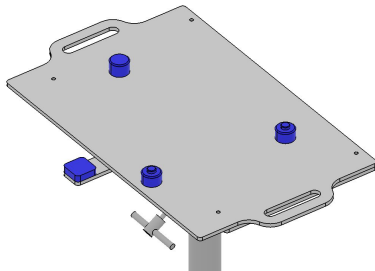


INITIAL SETUP (TRANSMISSION JACK)

Step	Directions	Visual Aid
1	<p>Mount the Drive Unit Cradle Adapter Plate to the Universal Saddle on the Transmission Jack using the supplied hardware</p> <ul style="list-style-type: none">(4X) FHS M10 X 1.5 X 30(4X) M10 LOCKNUT(4X) M10 WASHER	 A technical illustration showing a grey rectangular adapter plate with four pre-drilled holes and a blue handle on the right side. Below it is a black universal saddle mounted on a transmission jack. The diagram illustrates the assembly process where the adapter plate is being positioned to be secured to the saddle with hardware.

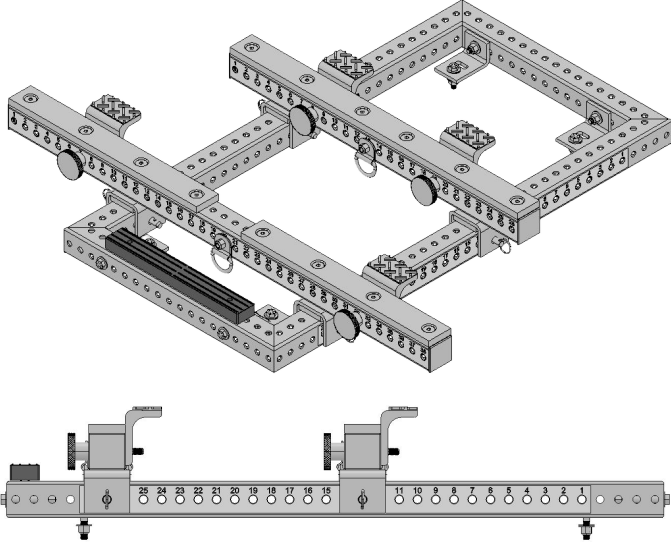
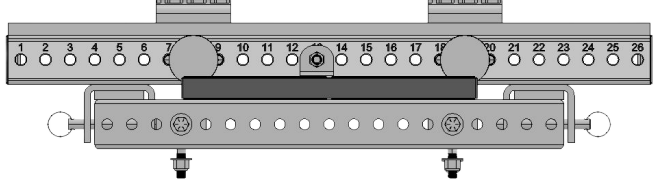
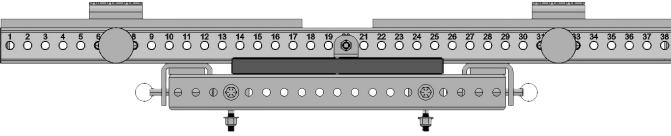


TOOL CONFIGURATION GUIDE: TRANSMISSION JACK

TOOL CONFIGURATION	VEHICLE CONFIGURATIONS
<p>TSN00781-201: DRIVE UNIT CRADLE, ORIGIN PLATE</p> 	<p><u>EDV 500/700</u> <u>DRIVE UNIT: ORIGIN</u></p>
<p>TSN00781-202: DRIVE UNIT CRADLE, ENDURO PLATE</p> 	<p><u>EDV 500/700</u> <u>DRIVE UNIT: ENDURO</u></p> <p><u>R1</u> <u>DRIVE UNIT: REAR ENDURO</u></p>
<p>TSN00781-204: DRIVE UNIT CRADLE, MAXIMUS RDU PLATE</p> 	<p><u>R2</u> <u>DRIVE UNIT: REAR MAXIMUS</u></p>

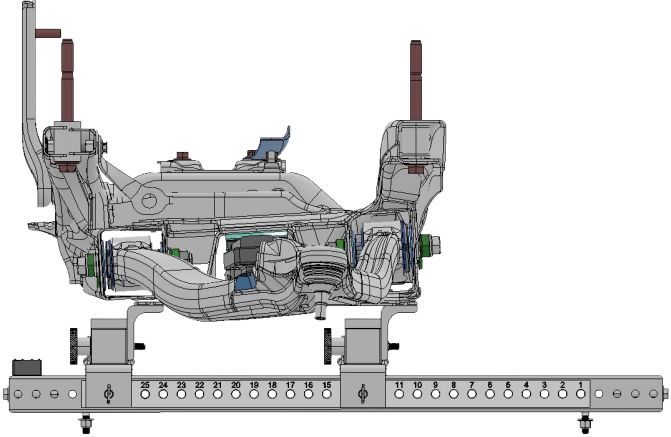


INITIAL SETUP (SUBFRAME BASE)

Step	Directions	Visual Aid
<p style="text-align: center; font-size: 2em; font-weight: bold;">1</p>	<p>Setup subframe cross members as shown.</p>	 <p style="text-align: center;">Short Crossmember: Position 13 Long Crossmember: Position 27 (14 holes apart)</p>
		 <p style="text-align: center;">Short Crossmember Brackets: Position 8 and 19</p>
		 <p style="text-align: center;">Long Crossmember Brackets: Position 7 and 32</p>

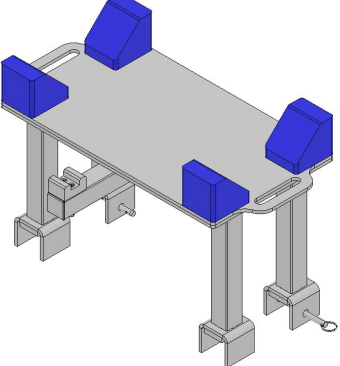
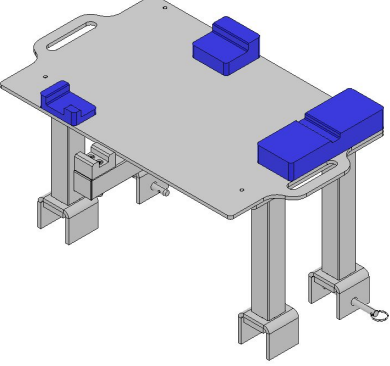
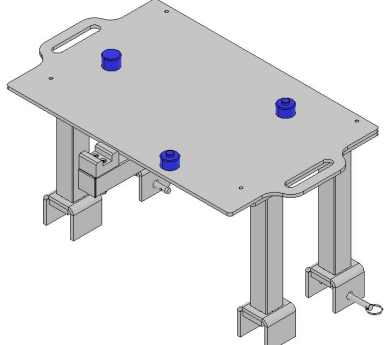


INITIAL SETUP (SUBFRAME BASE)

Step	Directions	Visual Aid
2	Lower the EDV FRT subframe from the vehicle. Reference the service manual for procedure, labor code 465515011.	 A technical line drawing of a vehicle's front subframe assembly. The subframe is shown in a perspective view, highlighting its complex structure with various mounting points, suspension components, and steering knuckles. It is mounted on a long, horizontal base plate. The base plate features a series of circular holes along its length, likely for alignment or adjustment. Two vertical supports are visible on the base plate, one on each side, which appear to be used to hold the subframe in place during assembly or inspection. The drawing is rendered in a clean, technical style with black lines on a white background.

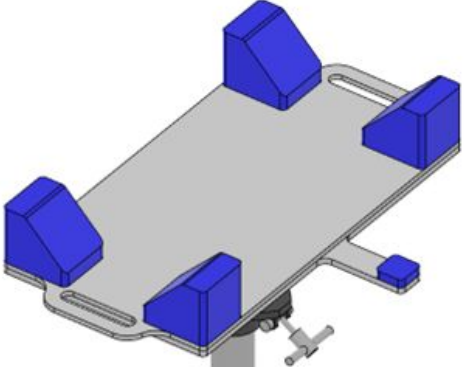
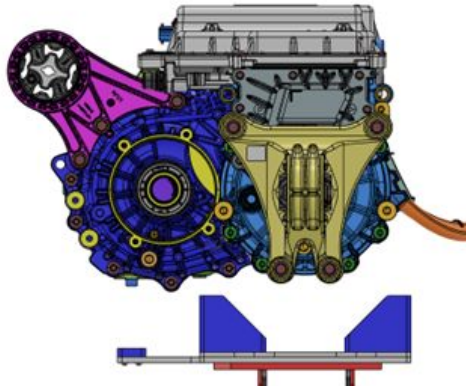


TOOL CONFIGURATION GUIDE: SUBFRAME FIXTURE

TOOL CONFIGURATION	VEHICLE CONFIGURATIONS
<p>TSN00781-201: DRIVE UNIT CRADLE, ORIGIN PLATE</p> 	<p><u>EDV 500/700</u> <u>DRIVE UNIT: ORIGIN</u></p>
<p>TSN00781-202: DRIVE UNIT CRADLE, ENDURO PLATE</p> 	<p><u>EDV 500/700</u> <u>SUBFRAME: GEN 1 / GEN 2</u> <u>DRIVE UNIT: ORIGIN</u></p> <p><u>R1</u> <u>DRIVE UNIT: REAR ENDURO</u></p>
<p>TSN00781-204: DRIVE UNIT CRADLE, MAXIMUS RDU PLATE</p> 	<p><u>R2</u> <u>DRIVE UNIT: REAR MAXIMUS</u></p>

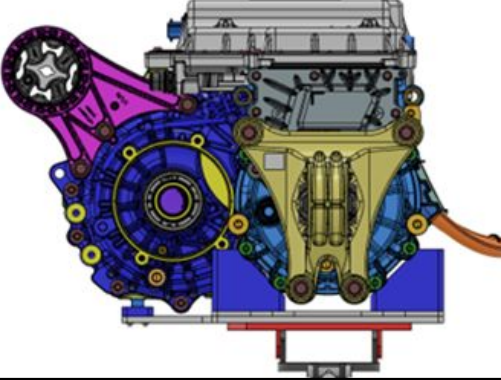


TOOL USE INSTRUCTION (EDV - FRT ORIGIN)

Step	Directions	Visual Aid (Origin)
1	Ensure all 12v harnesses and coolant lines are disconnected from the drive unit. Reference the service manual for procedure, labor code 381010010.	
2	Install the correct Cradle for the appropriate DU. Verify the Cradle is sitting flush on the Adapter Plate and that all four dowels are inserted.	 A 3D perspective diagram showing a grey rectangular cradle with four blue trapezoidal support blocks. The cradle is positioned on a white adapter plate. A small grey bolt is visible on the right side of the adapter plate.
3	Slowly raise the high lift jack up to the drive unit, aligning the center support with the bottom side of the gearbox housing.	 A 3D perspective diagram of a blue and yellow drive unit. The drive unit is mounted on a red high lift jack. The jack is positioned on a white adapter plate. The drive unit has a large blue gear housing and a yellow central support.

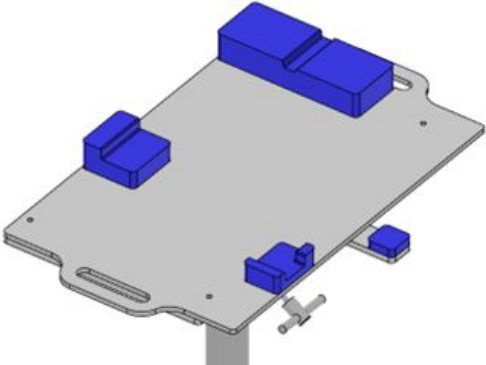
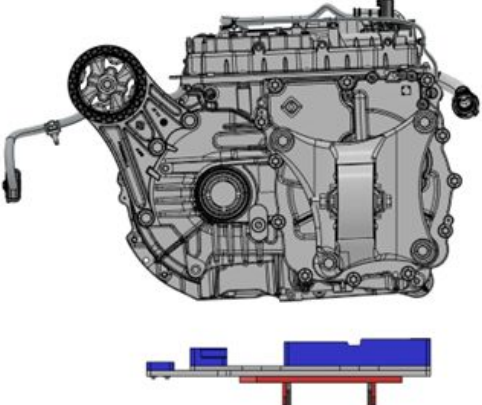


TOOL USE INSTRUCTION (EDV - FRT ORIGIN)

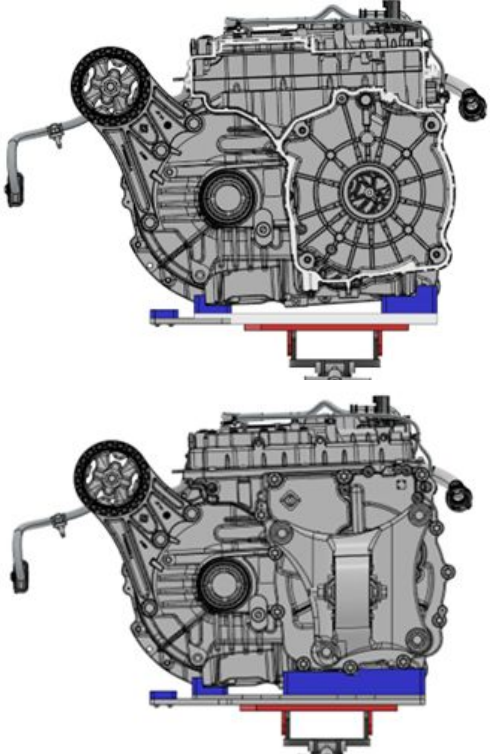
Step	Directions	Visual Aid (Origin)
4	The drive unit is properly supported when the motor housing makes contact with all of the supports	
5	<p>Remove bolts attaching drive unit to EDV frame and slowly lower the DU from the vehicle.</p> <p>⚠ Note: Always have a spotter on each side of the vehicle when lowering the drive unit to make sure all wire harnesses and coolant hoses clear the vehicle.</p>	



TOOL USE INSTRUCTION (EDV - FRT ENDURO)

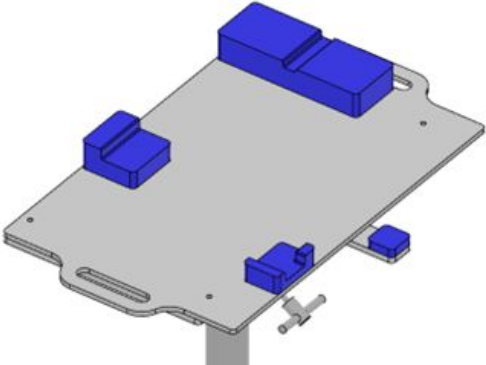
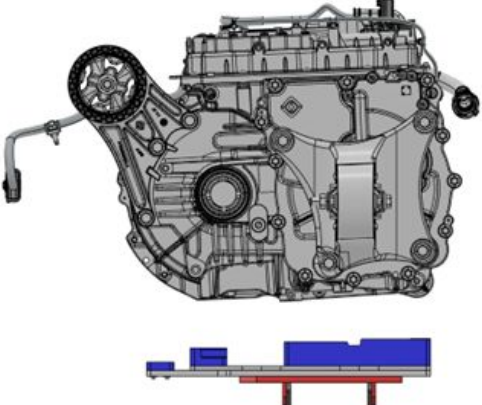
Step	Directions	Visual Aid (Enduro)
1	Ensure all 12v harnesses and coolant lines are disconnected from the drive unit. Reference the service manual for procedure, labor code 381010010.	
2	Install the correct Cradle for the appropriate DU. Verify the Cradle is sitting flush on the Adapter Plate and that all four dowels are inserted.	
3	Slowly raise the high lift jack up to the drive unit, aligning the notches in the support pads with the bottom side of the drive unit.	



Step	Directions	Visual Aid (Enduro)
4	<p>The drive unit is properly supported when the motor housing makes contact with all of the supports</p>	
5	<p>Remove bolts attaching drive unit to EDV frame and slowly lower the DU from the vehicle.</p> <p>⚠ Note: Always have a spotter on each side of the vehicle when lowering the drive unit to make sure all wire harnesses and coolant hoses clear the vehicle.</p>	

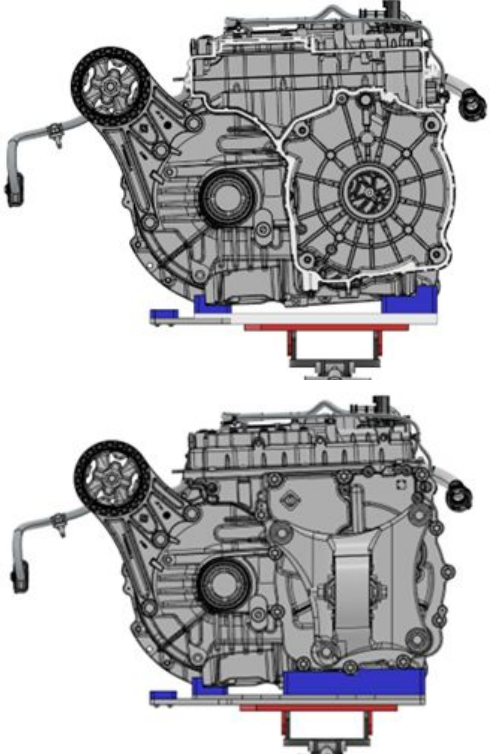


TOOL USE INSTRUCTION (EDV - FRT ENDURO)

Step	Directions	Visual Aid (Enduro)
1	Ensure all 12v harnesses and coolant lines are disconnected from the drive unit. Reference the service manual for procedure, labor code 381010010.	
2	Install the correct Cradle for the appropriate DU. Verify the Cradle is sitting flush on the Adapter Plate and that all four dowels are inserted.	
3	Slowly raise the high lift jack up to the drive unit, aligning the notches in the support pads with the bottom side of the drive unit.	

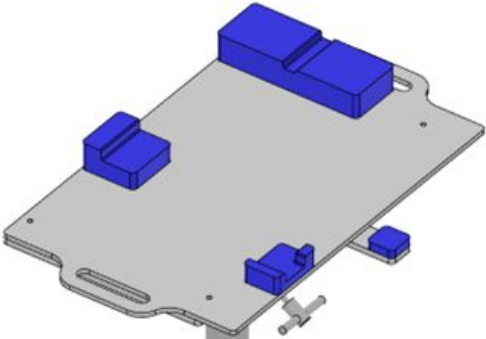
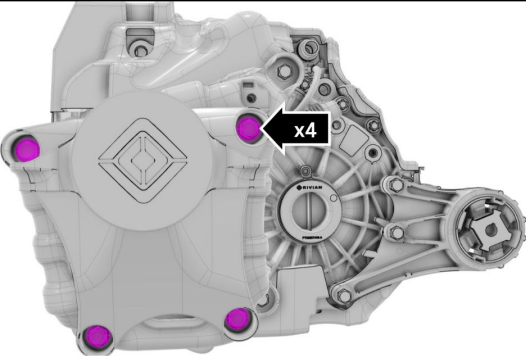
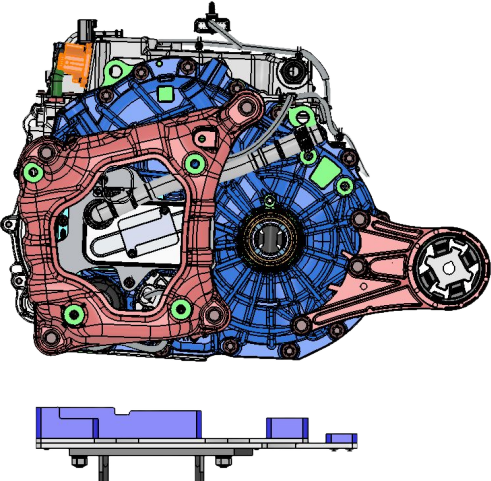


TOOL USE INSTRUCTION (EDV - FRT ENDURO)

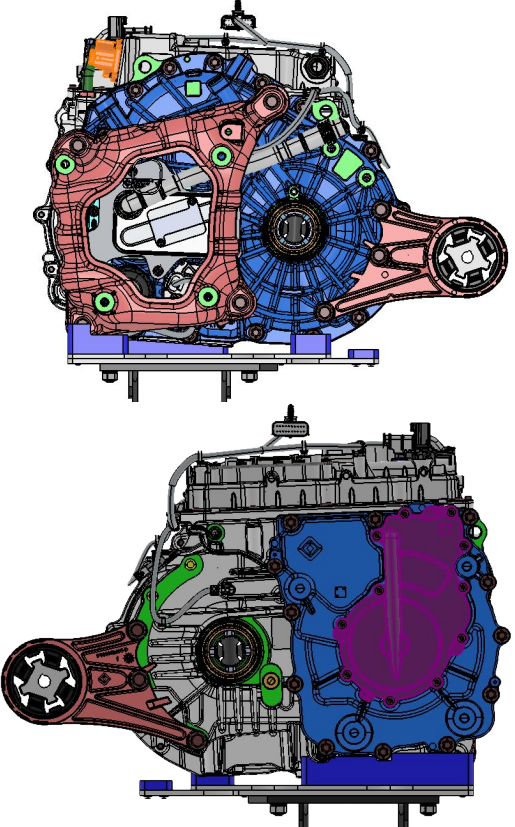
Step	Directions	Visual Aid (Enduro)
4	<p>The drive unit is properly supported when the motor housing makes contact with all of the supports</p>	
5	<p>Remove bolts attaching drive unit to EDV frame and slowly lower the DU from the vehicle.</p> <p>⚠ Note: Always have a spotter on each side of the vehicle when lowering the drive unit to make sure all wire harnesses and coolant hoses clear the vehicle.</p>	



TOOL USE INSTRUCTION (R1 - RR ENDURO)

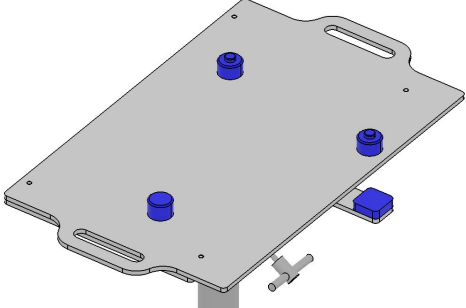
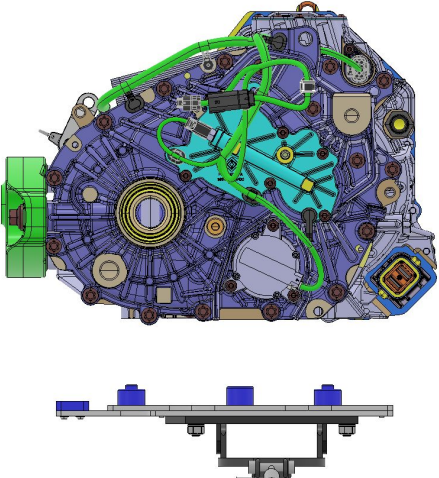
Step	Directions	Visual Aid (Enduro)
1	Ensure all 12v harnesses and coolant lines are disconnected from the drive unit. Reference the service manual for procedure, labor code 381010010.	
2	Install the correct Cradle for the appropriate DU. Verify the Cradle is sitting flush on the Adapter Plate and that all four dowels are inserted.	
3	Remove outer motor mounts from both sides of the drive unit. Refer to service manual procedure (Labor Code 421010010)	
4	Slowly raise the high lift jack up to the drive unit, aligning the notches in the support pads with the bottom side of the drive unit.	



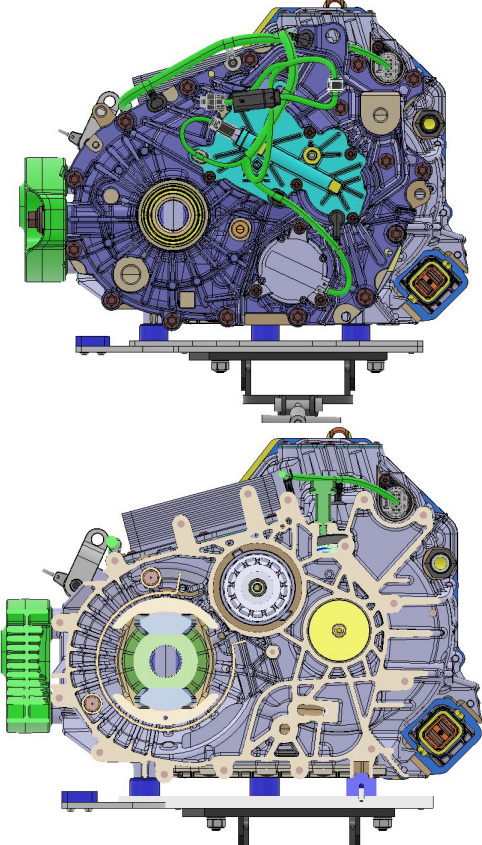
Step	Directions	Visual Aid (Enduro)
4	<p>The drive unit is properly supported when the motor housing makes contact with all of the supports</p>	
5	<p>Remove bolts attaching drive unit to EDV frame and slowly lower the DU from the vehicle.</p> <p>⚠ Note: Always have a spotter on each side of the vehicle when lowering the drive unit to make sure all wire harnesses and coolant hoses clear the vehicle.</p>	



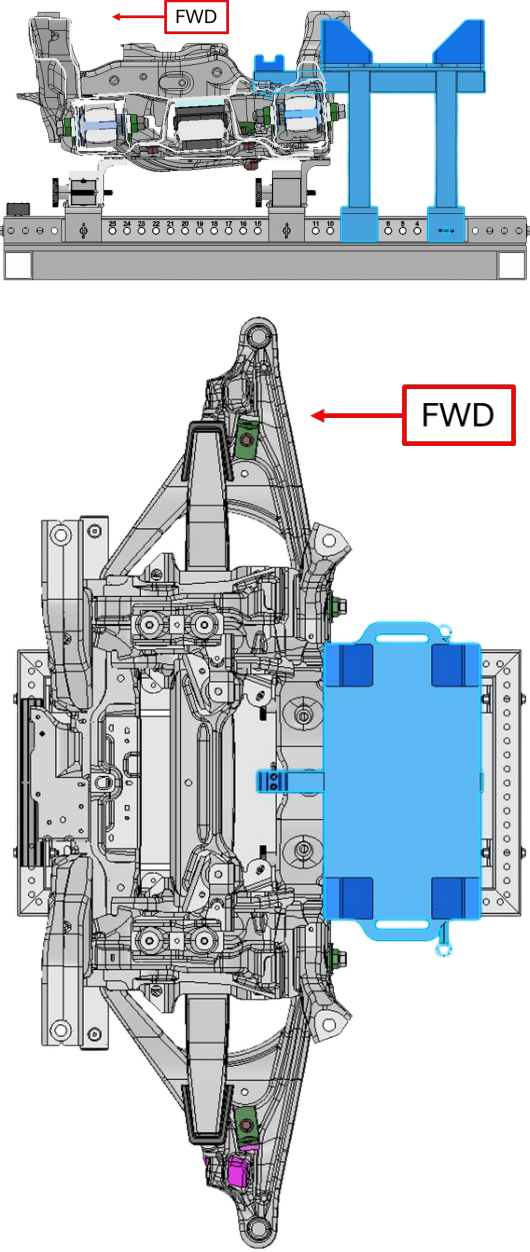
TOOL USE INSTRUCTION (R2 - RR MAXIMUS)

Step	Directions	Visual Aid (Maximus)
1	Ensure all 12v harnesses and coolant lines are disconnected from the drive unit. Reference the service manual for procedure, labor code 381010010.	
2	Install the correct Cradle for the appropriate DU. Verify the Cradle is sitting flush on the Adapter Plate and that all four dowels are inserted.	
3	Slowly raise the high lift jack up to the drive unit, aligning the two raised standoffs with the two provisions on the bottom side of the drive unit.	

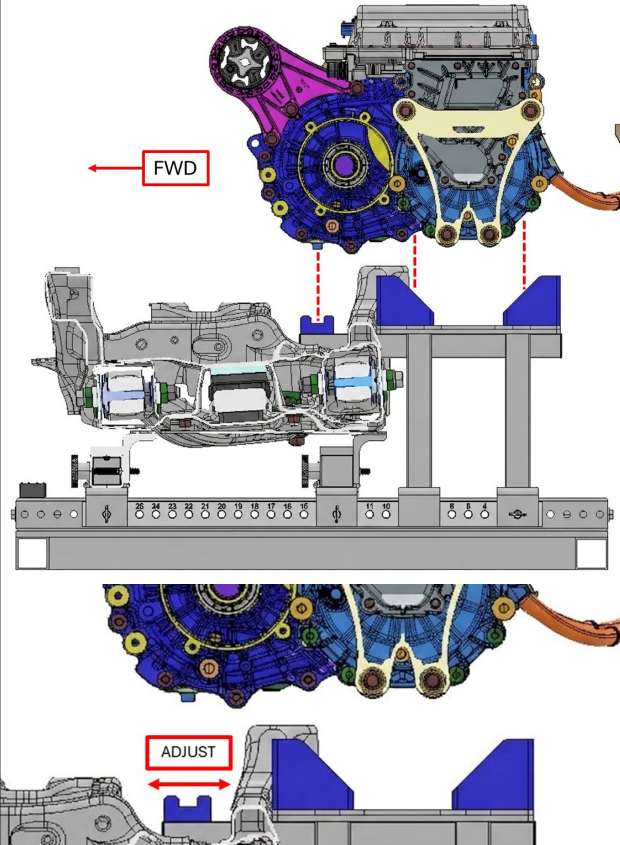
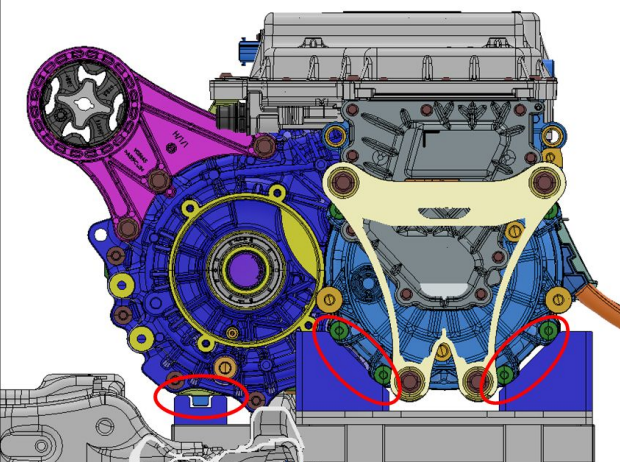


Step	Directions	Visual Aid (Maximus)
4	<p>The drive unit is properly supported when the drive unit makes contact with all of the supports.</p>	
5	<p>Remove bolts attaching drive unit to vehicle subframe and slowly lower the DU from the vehicle.</p> <p>⚠ Note: Always have a spotter on each side of the vehicle when lowering the drive unit to make sure all wire harnesses and coolant hoses clear the vehicle.</p>	



Step	Directions	Visual Aid (Origin)
<p>1</p>	<p>With the subframe still on the powertrain lift table, attach the cradle to the subframe fixture with two 7/16" Dia, 3-1/2" long, quick release pins in position 2.</p>	
<p>2</p>	<p>Ensure all 12v harnesses and coolant lines are disconnected from the drive unit. Reference the service manual for procedure, labor code 381010010.</p>	



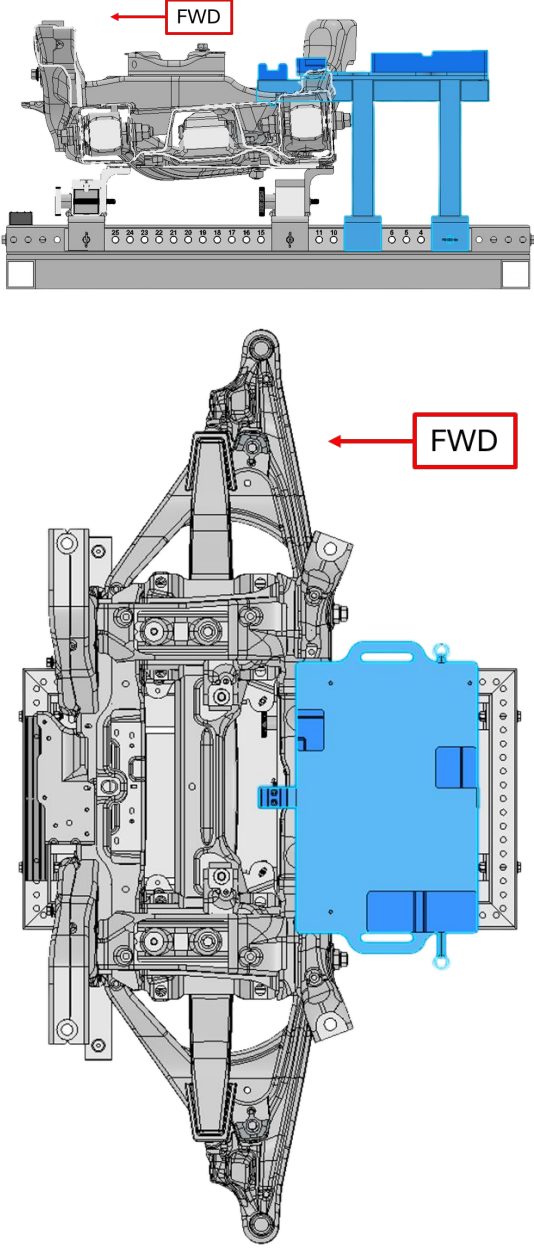
Step	Directions	Visual Aid (Origin)
3	<p>Slowly raise the powertrain lift up to the drive unit, aligning the center support with the bottom side of the gearbox housing.</p> <p>! Note: The center support can be adjusted forward and backward to make contact with the underside of the Origin gearbox housing. This support is not used on the Enduro DU. Hand torque the M6 nuts (x2) after support is adjusted.</p>	
4	<p>The drive unit is properly supported when the motor housing makes contact with all of the supports</p>	



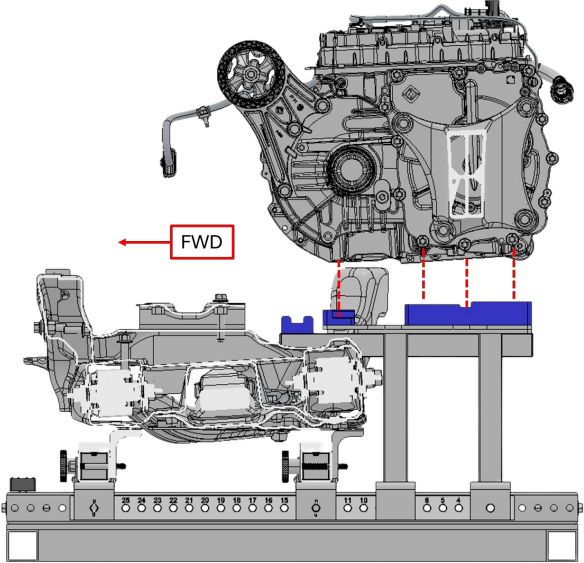
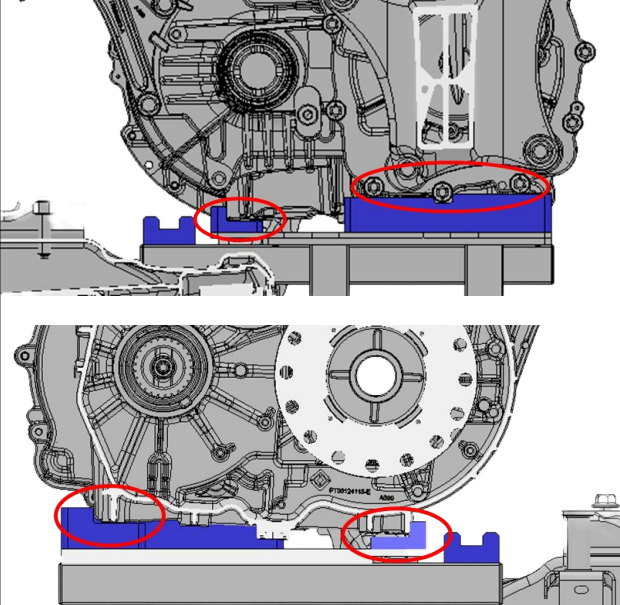
TOOL USE INSTRUCTION (EDV - FRT ORIGIN)

Step	Directions
5	<p>Remove bolts attaching drive unit to EDV frame and slowly lower the drive unit from the vehicle.</p> <p>⚠ Note: Always have a spotter on each side of the vehicle when lowering the drive unit to make sure all wire harnesses and coolant hoses clear the vehicle.</p>



Step	Directions	Visual Aid (Enduro)
<p>1</p>	<p>With the subframe still on the powertrain lift table, attach the cradle to the subframe fixture with two 7/16" Dia, 3-1/2" long, quick release pins in position 2.</p>	
<p>2</p>	<p>Ensure all 12v harnesses and coolant lines are disconnected from the drive unit. Reference the service manual for procedure, labor code 381010010.</p>	



Step	Directions	Visual Aid (Enduro)
3	<p>Slowly raise the powertrain lift up to the drive unit, aligning the center support with the bottom side of the gearbox housing.</p>	
4	<p>The drive unit is properly supported when the motor housing makes contact with all of the supports</p>	

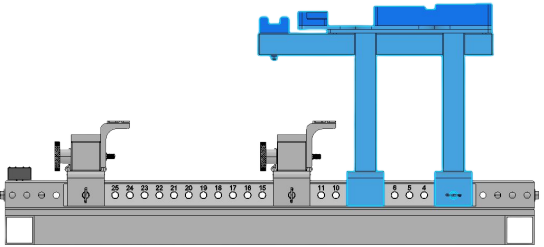
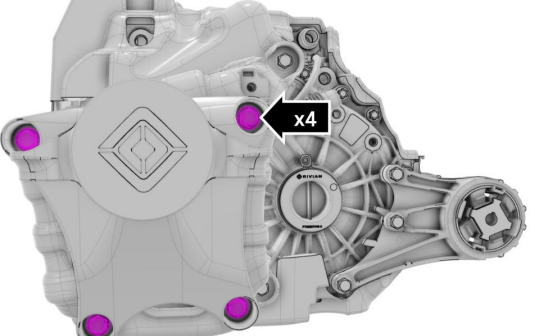
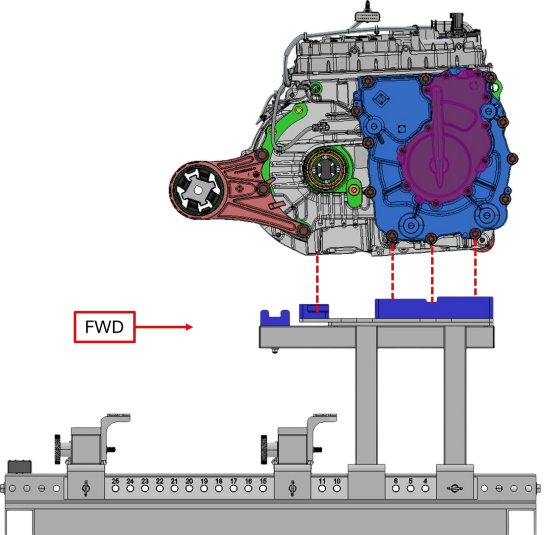


TOOL USE INSTRUCTION (EDV - FRT ENDURO)

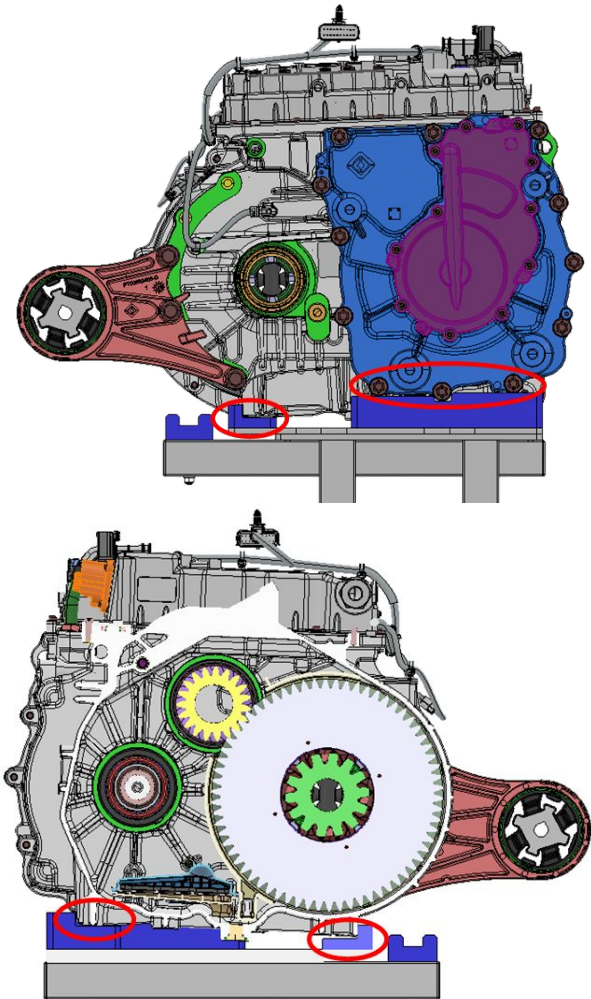
Step	Directions
5	<p>Remove bolts attaching drive unit to EDV frame and slowly lower the drive unit from the vehicle.</p> <p>⚠ Note: Always have a spotter on each side of the vehicle when lowering the drive unit to make sure all wire harnesses and coolant hoses clear the vehicle.</p>



TOOL USE INSTRUCTION (R1 - RR ENDURO)

Step	Directions	Visual Aid (Enduro)
1	Attach the cradle to the subframe fixture with two 7/16" Dia, 3-1/2" long, quick release pins in position 2.	
2	Ensure all 12v harnesses and coolant lines are disconnected from the drive unit. Reference the service manual for procedure, labor code 381010010.	
3	Remove outer motor mounts from both sides of the drive unit. Refer to service manual procedure (Labor Code 421010010)	
4	Slowly raise the powertrain lift up to the drive unit, aligning the center support with the bottom side of the gearbox housing.	



Step	Directions	Visual Aid (Enduro)
5	<p>The drive unit is properly supported when the motor housing makes contact with all of the supports</p>	

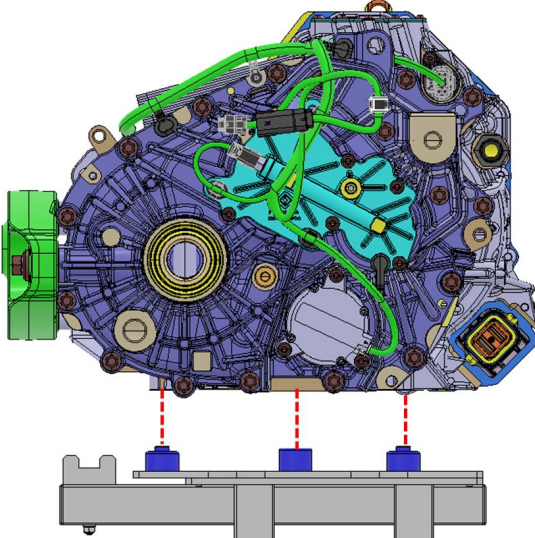
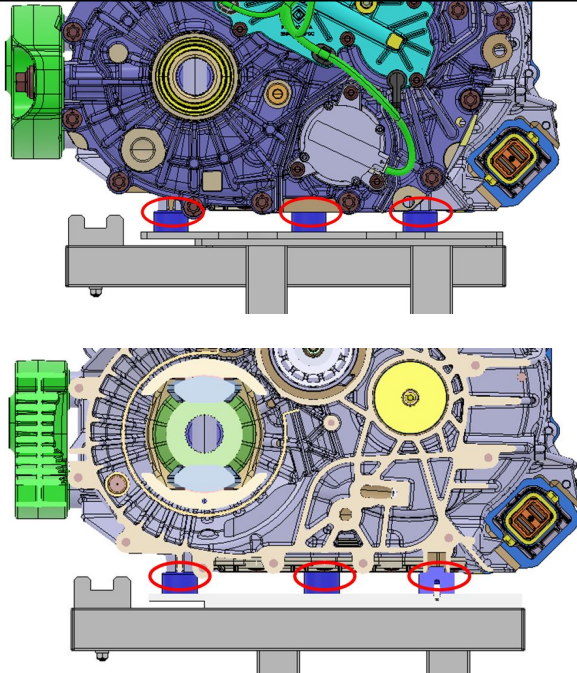


TOOL USE INSTRUCTION (R1 - RR ENDURO)

Step	Directions
5	<p>Remove bolts attaching drive unit to EDV frame and slowly lower the drive unit from the vehicle.</p> <p>⚠ Note: Always have a spotter on each side of the vehicle when lowering the drive unit to make sure all wire harnesses and coolant hoses clear the vehicle.</p>



TOOL USE INSTRUCTION (R2 - RR MAXIMUS)

Step	Directions	Visual Aid (Maximus)
1	Ensure all 12v harnesses and coolant lines are disconnected from the drive unit. Reference the service manual for procedure, labor code 381010010.	
2	Slowly raise the powertrain lift up to the drive unit, aligning the two raised standoffs with the two provisions on the bottom side of the drive unit.	
3	The drive unit is properly supported when the drive unit makes contact with all of the supports.	



TOOL USE INSTRUCTION (R2 - RR MAXIMUS)

Step	Directions
4	<p>Remove bolts attaching drive unit to vehicle subframe and slowly lower the drive unit from the vehicle.</p> <p>⚠ Note: Always have a spotter on each side of the vehicle when lowering the drive unit to make sure all wire harnesses and coolant hoses clear the vehicle.</p>



BASIC MAINTENANCE GUIDE

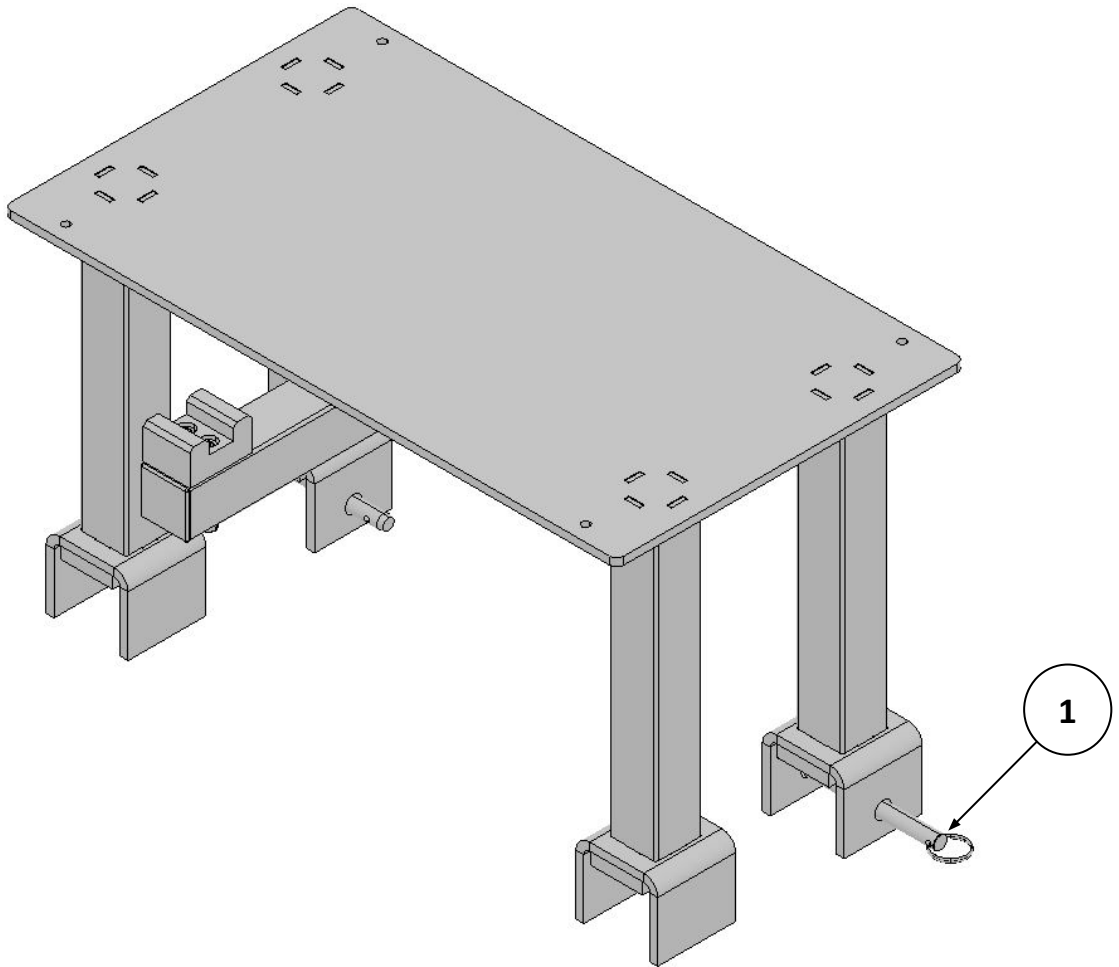
TASK	FREQUENCY
Verify all components are accounted for	Before and after every use
Inspect all components for damage	Before and after every use



SERVICE & REPLACEMENT COMPONENTS

FOR OTHER ITEMS NOT SHOWN, CONTACT RIVIAN SERVICE TOOL ENGINEERING

ITEM	DESCRIPTION	SUPPLIER + PART NUMBER
1	QUICK RELEASE PIN - 7/16" DIA, 3-1/2" LONG, 18-8 SS	MCMASTER-CARR 98404A467



TROUBLESHOOTING

PROBLEM	SOLUTION
If the fitment of either TSN00781-201-A DRIVE UNIT CRADLE, ORIGIN PLATE, TSN00781-202-A DRIVE UNIT CRADLE, ENDURO PLATE or TSN00781-204-A DRIVE UNIT CRADLE, MAXIMUS RDU PLATE does not sit flush onto TSN00781-200-A BASE, DRIVE UNIT CRADLE	Enlarge the mating dowel holes accordingly by using a drill and drill bit.





DANGER

Risk of electrocution or electric shock



WARNING

Risk of minor injury



DANGER

Risk of major injury such as

- fire
- chemical or poison
- crushing / maiming
- death



CAUTION

Risk of

- damage to vehicle or property
- data disruption
- voiding warranty

IMPORTANT

Instructions to successfully complete a task

NOTE

Useful information

REVISION LOG

REV	DATE	CHANGE DESCRIPTION
1 (A)	8/12/2022	Initial release (confluence page)
2 (B)	6/20/2023	Adds Enduro cradle configuration. Moves TUI to new format.
3 (C)	4/21/2025	Adds transmission jack base plate.
4	5/5/2026	Adds R2 cradle configuration. Switches TUI revisions from alpha to numeric.

