



Redline Engineering RTS3000 - 3000 lb Capacity Rotisserie Assembly Manual



Set all like hardware together in matching fashion.



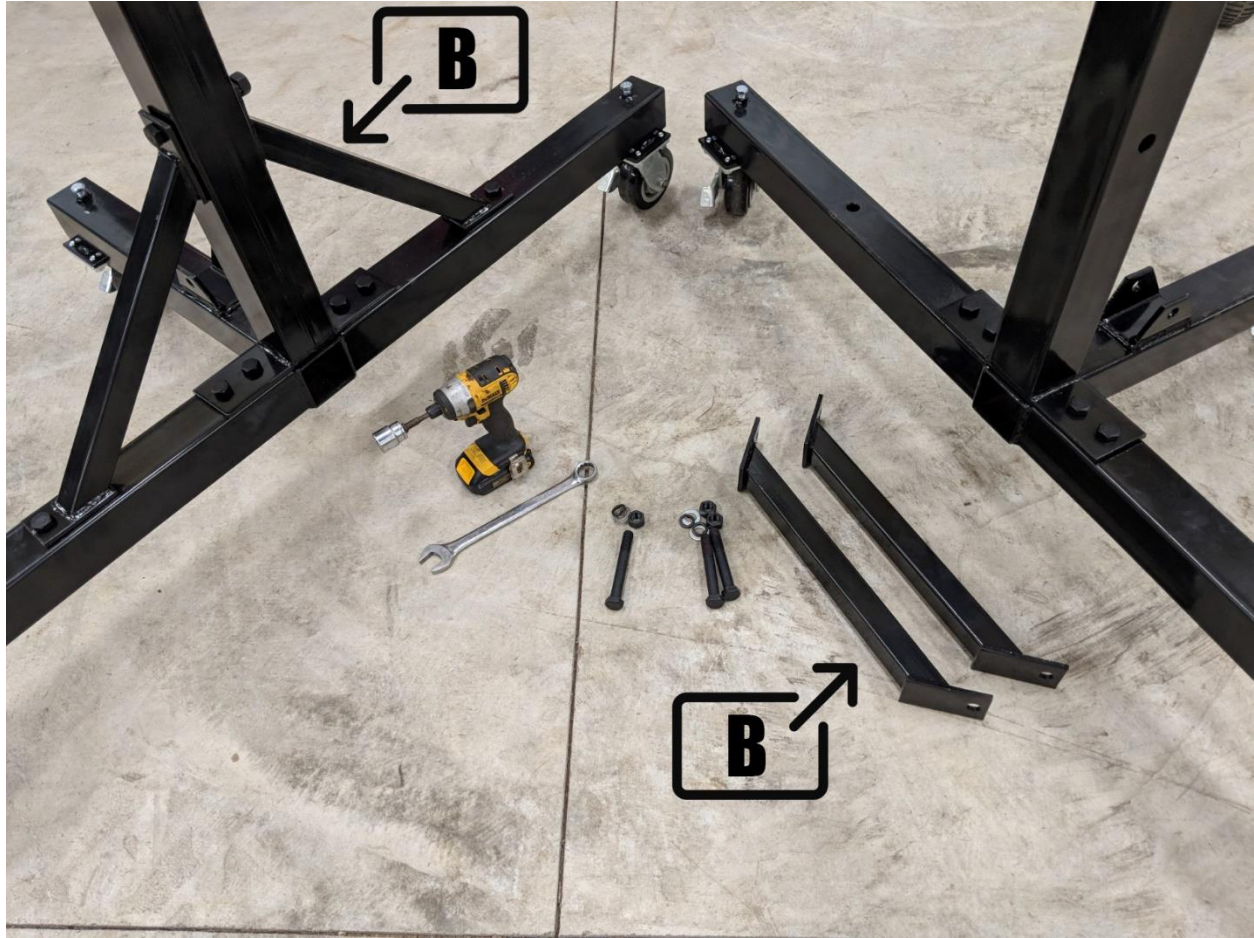
Using 17mm socket wrench, install 10mm bolts, washers, and lock washers to secure all 6 caster wheels to the bottom of the T shaped frame bases.



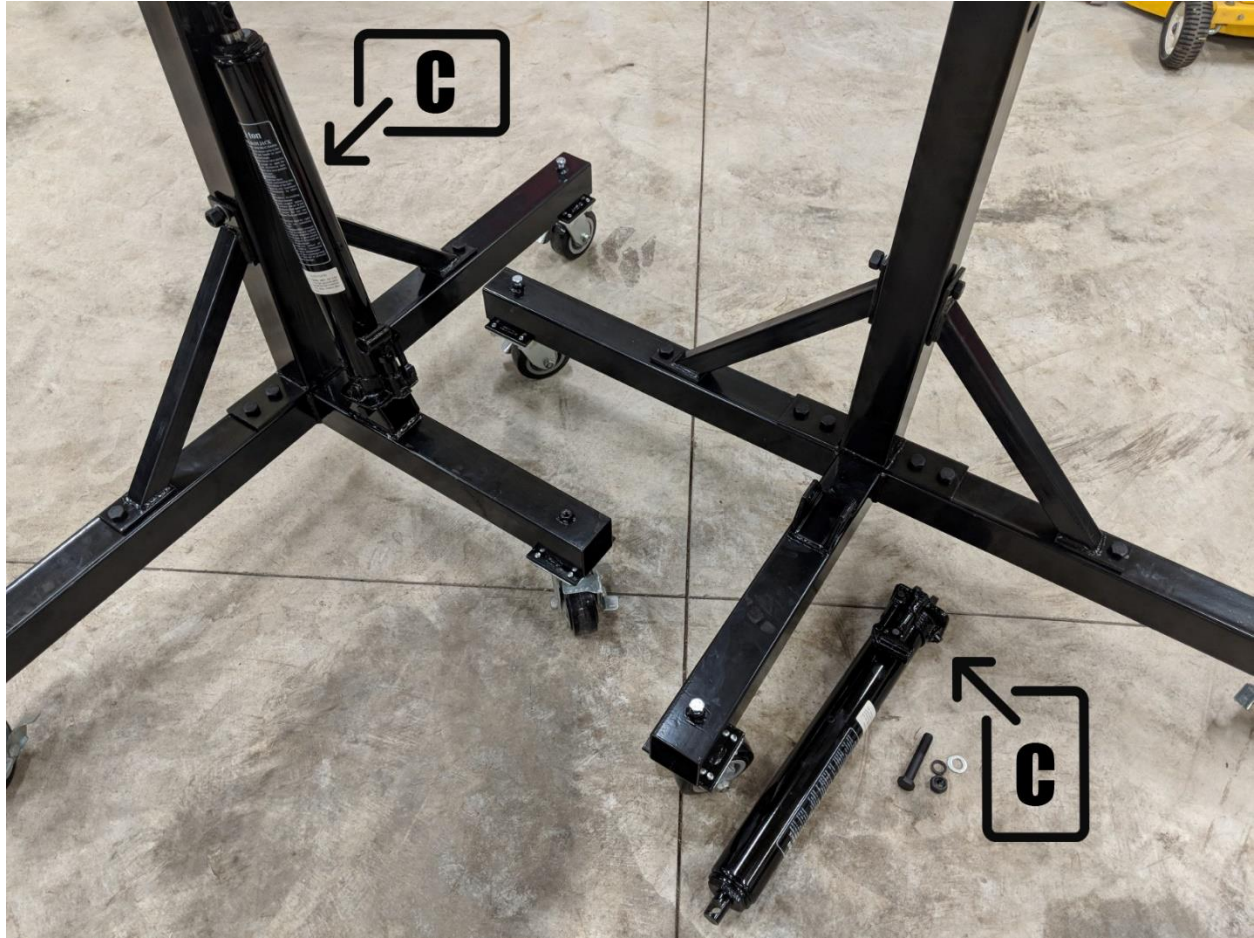
Next, use a 24mm socket and wrench to install the 16mm x 110 bolts with corresponding lock washer, washer, and nuts to secure upright mast heads (part A) to the T-shaped frame bases. Leave all bolts hand tight during the assembly process. The base on the right depicts this has been done while the base on the left has not yet completed this step.



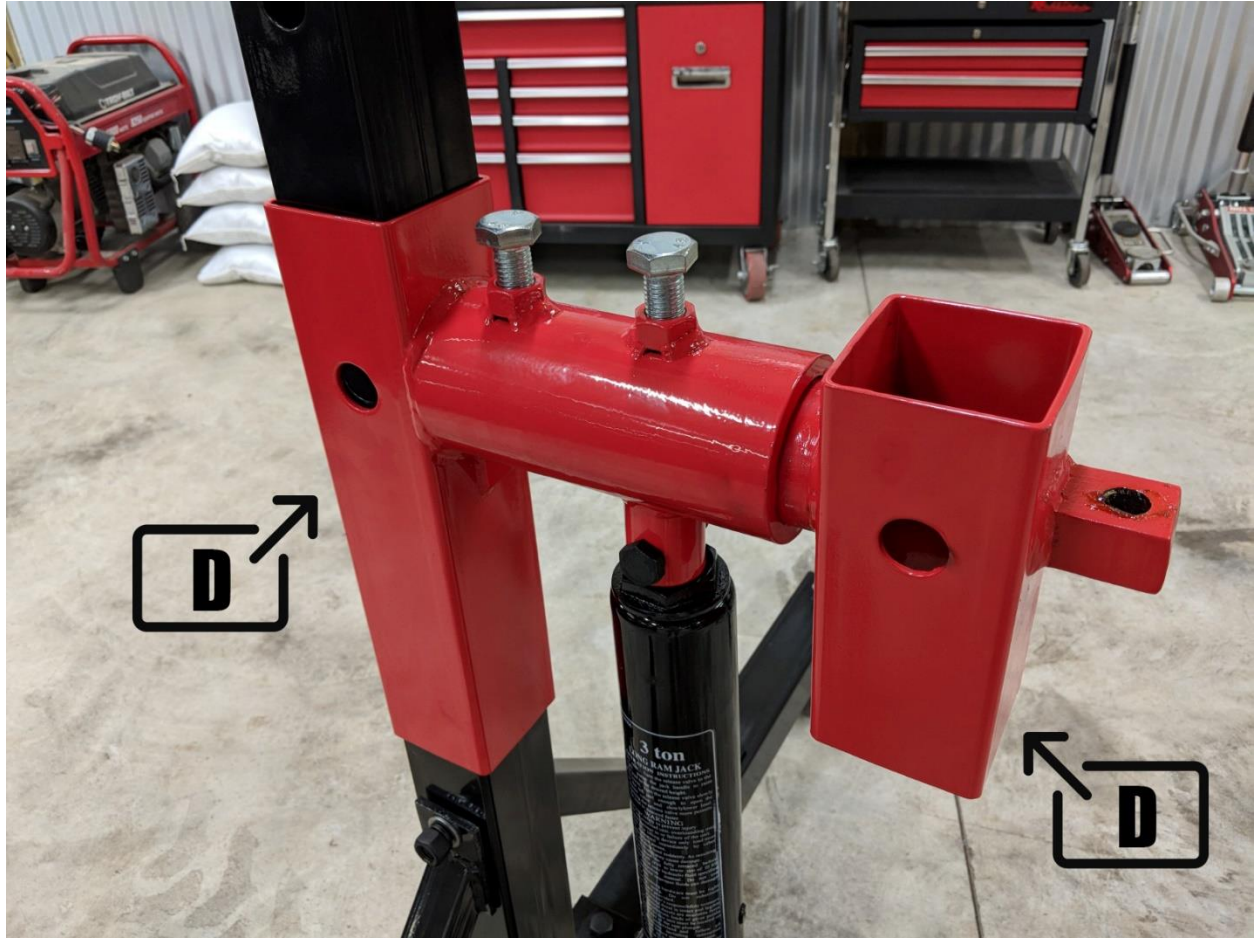
Attach the 45 degree angle braces (part B) to the base of the rotisserie at each end. Use four 16mm x 110 bolts across the bottoms and two 16mm x 120 bolts across the tops. Use washer, lock washer, and nut. The base on the left depicts this has been done while the base on the right has not yet completed this step.



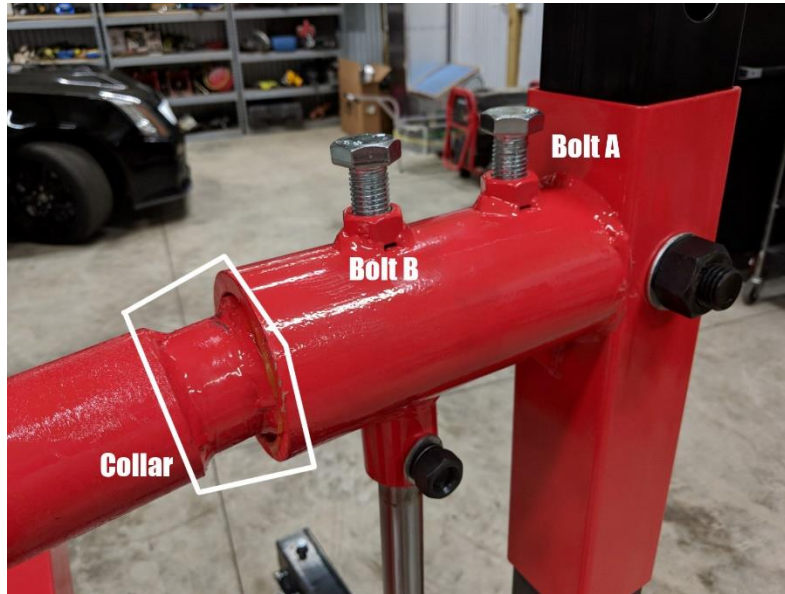
Next, secure the hydraulic bottle jack (part C) to the frame base with one 16mm x 90 bolt, washer, lock washer, and nut to the bottom on each side. Leave the bottle jack leaning against the upright as shown on the left. The base on the left depicts this has been done while the base on the right has not yet completed this step.



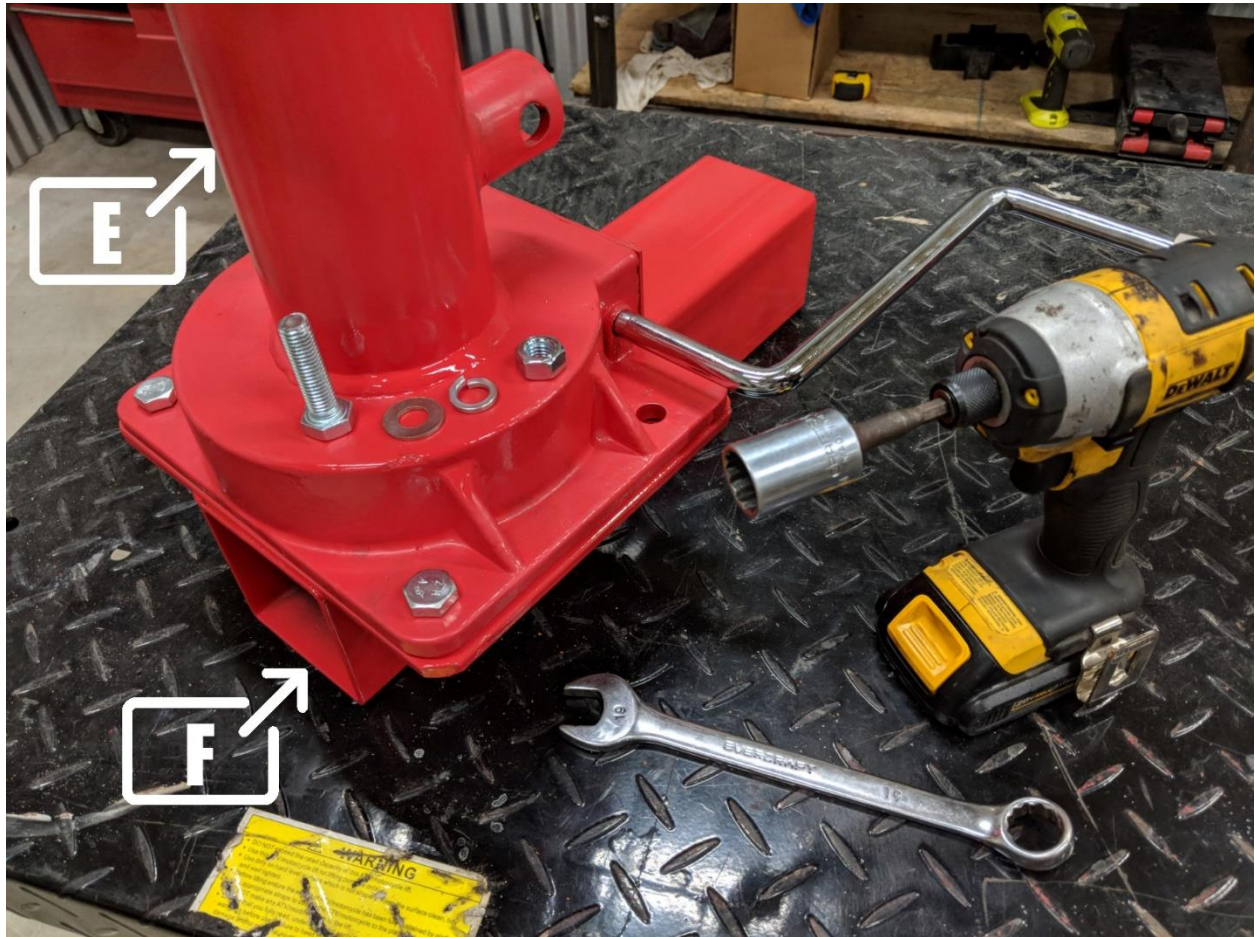
Slide the non-gear drive rotating head assembly (Assembly D) over the masthead making sure the hydraulic cylinder ram slides into place as shown. You'll likely need to spin the hydraulic cylinder ram to align the holes. Once done, use a 16mm x 65 bolt, washer, lock washer, and nut to secure the top of the hydraulic ram to the bottom of the rotating head assembly (Assembly D).



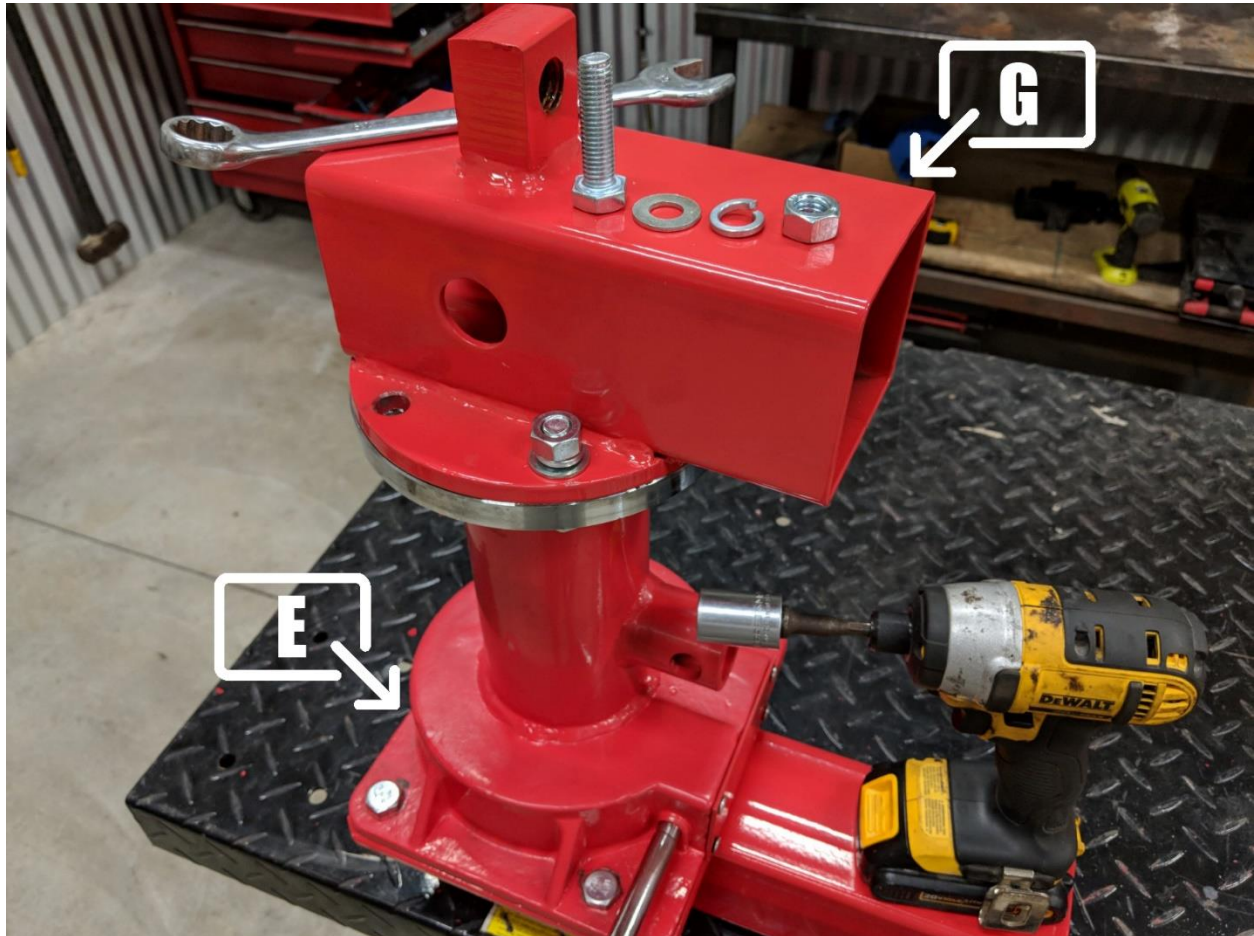
When the parts below are fully assembled, Bolt A should protrude into the collar shown below. This keeps the two pieces from separating when the vehicle is spinning. We recommend tightening bolt A so that it is tight into the collar, and then releasing Bolt A just enough so that the two assemblies spin freely. Bolt B is a pinch bolt intended to lock the rotisserie angle in place for working on the vehicle.



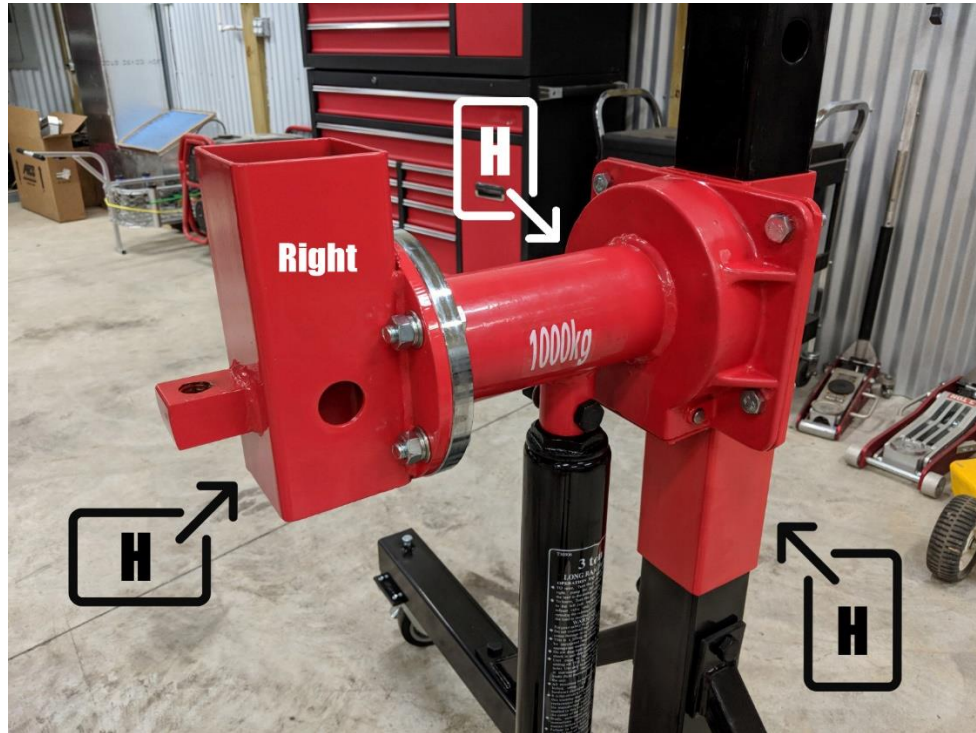
Using a 19mm socket and wrench, bolt the gear drive (Part E) to its corresponding mounting plate (Part F) using four M12 bolts, washers, lock washers, and nuts. This step and the next step can be completed on the rotisserie if lifting this heavy assembly below is problematic for the user.



Using a 19mm socket and wrench, bolt the T carriage mount (Part G) to the rotating gear drive head (Part E) using four M12 bolts, washers, lock washers, and nuts.



Slide the gear drive assembly (Assembly H) onto the masthead of the rotisserie frame. Rotate the handle to ensure the assembly is in the proper orientation as shown below. Both right and wrong are depicted below and labeled accordingly. Use 16mm x 65 bolts, washers, lock washers, and nuts to secure the top of the hydraulic ram to the gear drive assembly (Assembly H) as shown.



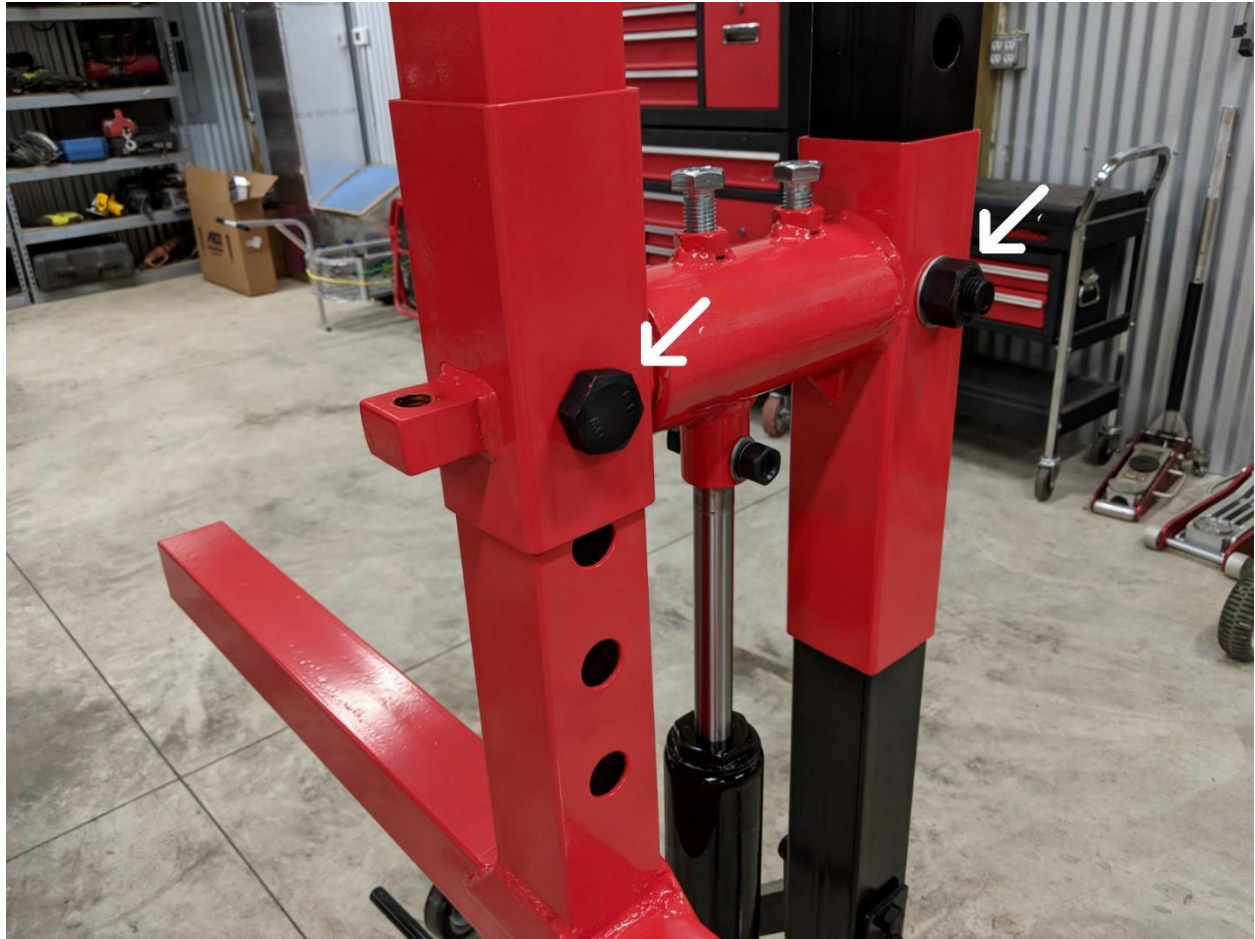
Use the jack handle to raise each end of the rotisserie high enough so that the T carriages can be installed in the oncoming steps.



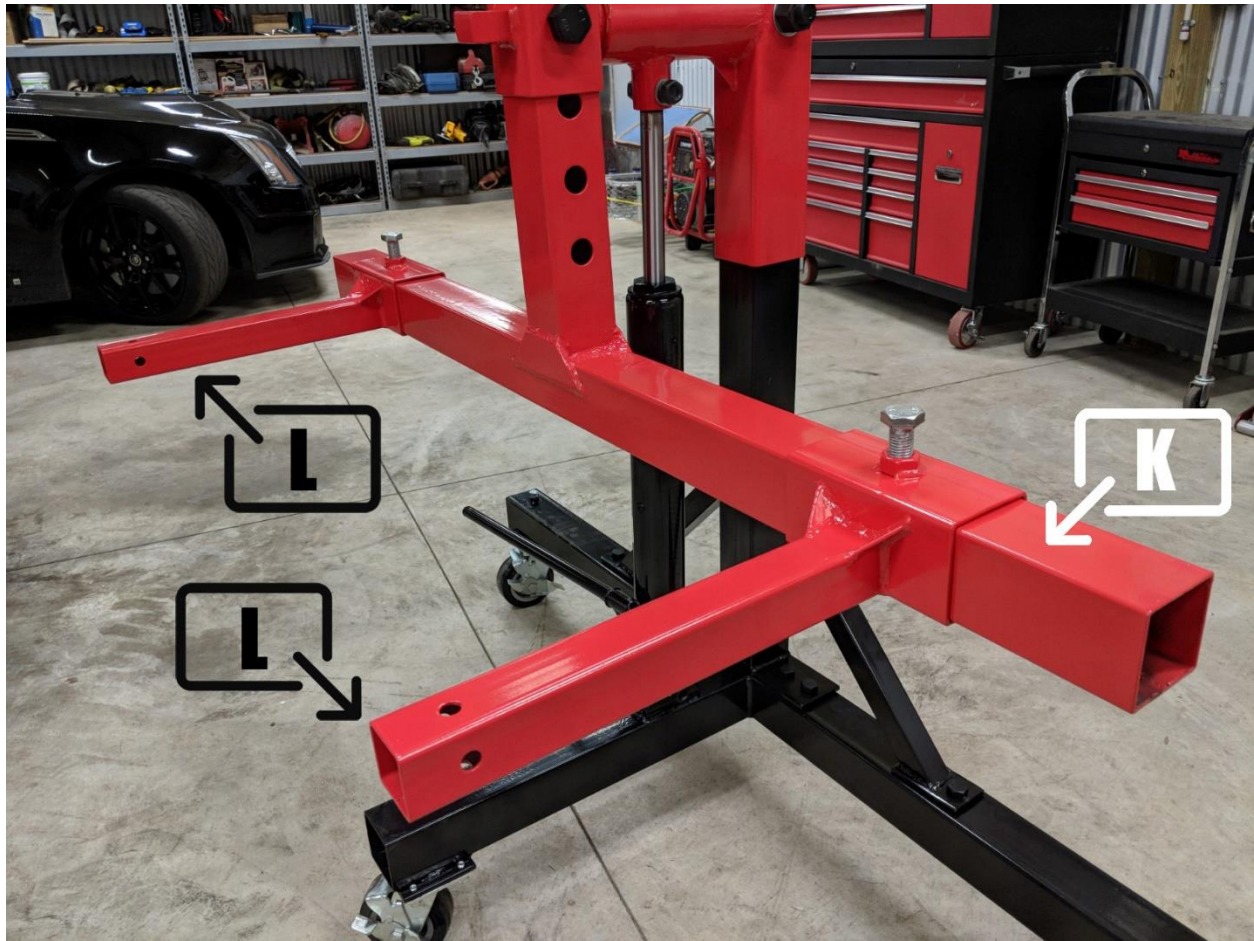
Use 24mm bolts and nuts to secure the rotating assembly to the upright.



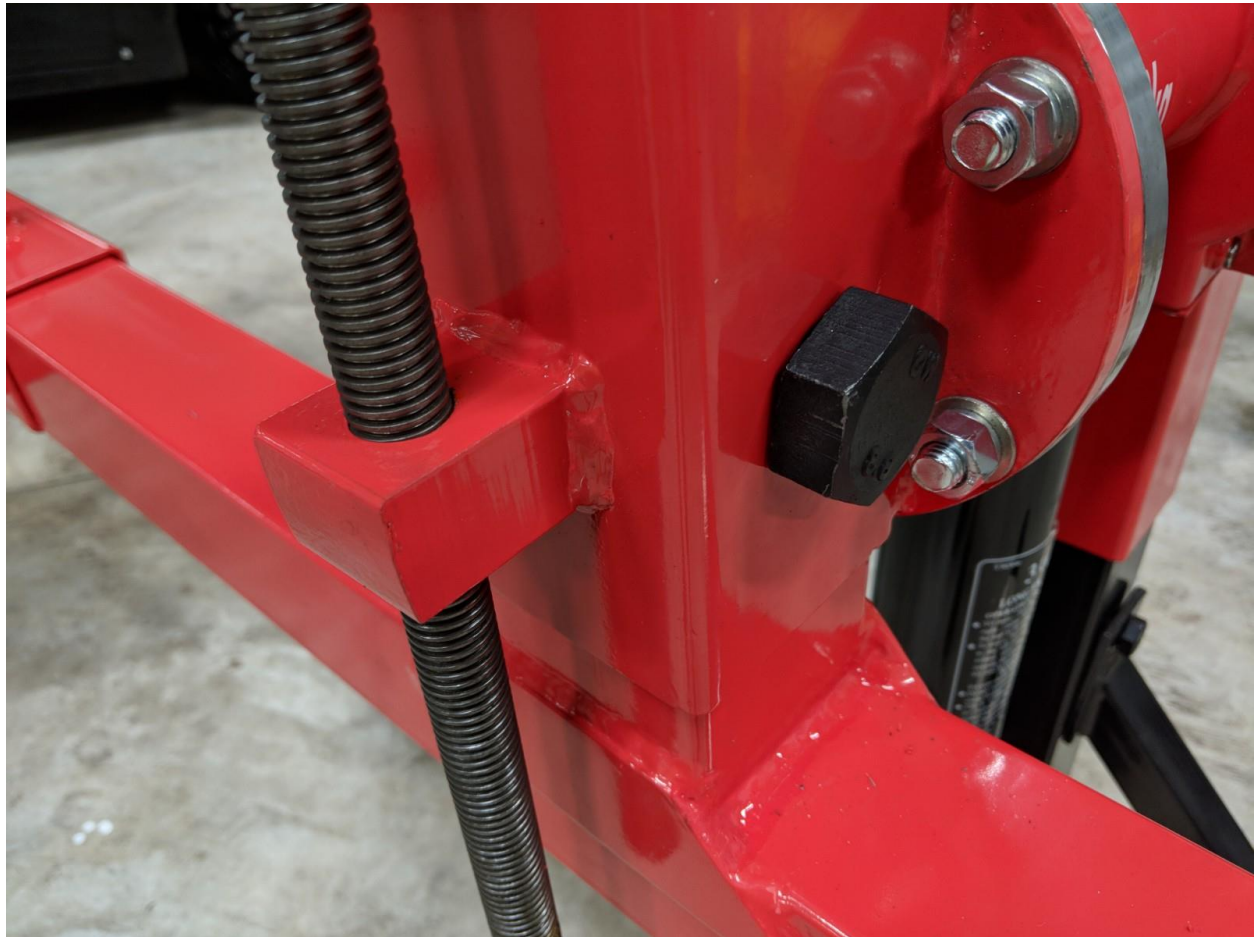
Use 24mm bolts and nuts to secure the T carriages to the rotating head assembly. Pick whichever hole you like.



Slide the two mounting arms (Parts L) onto the T-carriage (Part K) at each end and secure the pinch bolts tightly enough so that they do not fall onto your feet when the T carriage is rotated.



Thread the balancing rods into place as shown. You'll thread the balancing rod far enough into the threaded block so that the head of the balancing system aligns with the corresponding mounting holes as shown in the next step.



Use a 6mm allen tool and 14mm wrench to tighten the four 8mm bolts, washers, lock washers, and nuts into place. Do this at each end.



Assemble the three telescopic lower frame arms into place as shown below. Tighten the jam bolts into place at your desired width

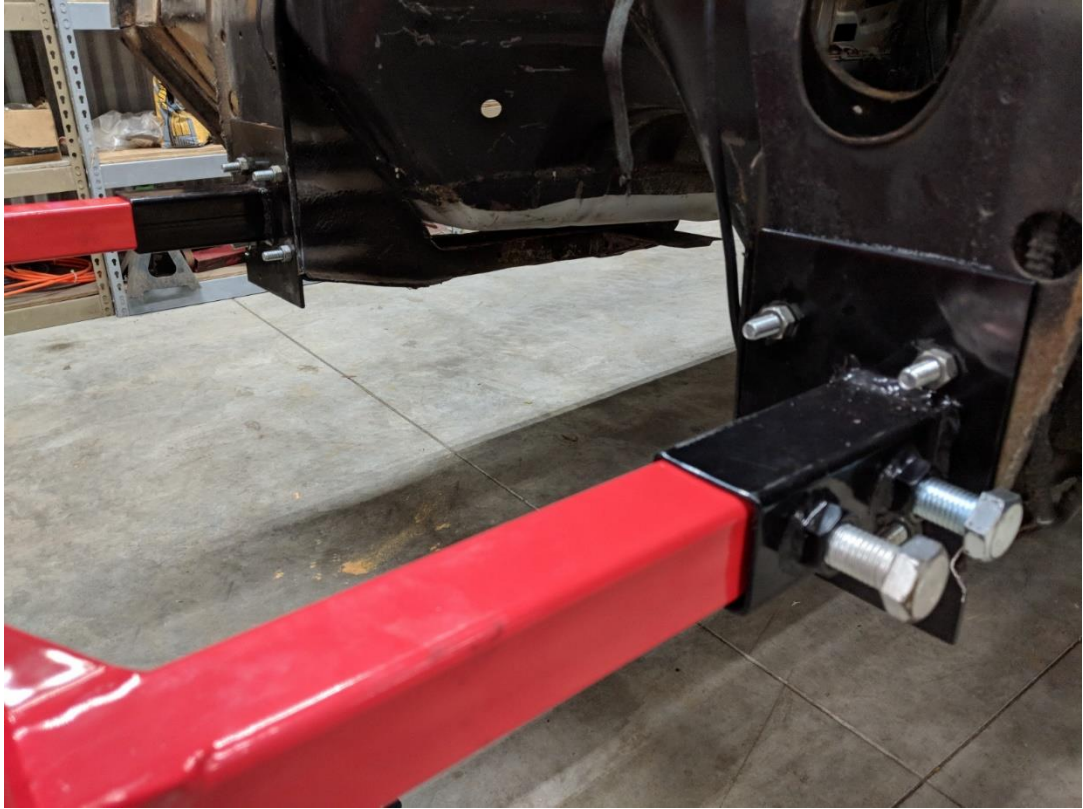




Tighten all loose bolts so the rotisserie is extremely rigid. Congrats, you're done with assembly! Now you can move onto mounting your vehicle to the rotisserie and aligning the center of gravity of the car with the center rotating axis of the rotisserie. This step balances the car on the rotisserie and is both extremely important for safety as well as to avoid damaging your rotisserie and car.

Bolt your car to the rotisserie as you see best fit. It is recommended that you secure your rotisserie mounting arms to the frame assembly of the car. The following photos depict mounting a 1967 Nova unibody car to the RTS3000 rotisserie. Redline front unibody brackets and rear leaf spring brackets were used. Your vehicle is likely to be much different, so these photos are provided for example purposes only. A full how-to video can be found on our Redline YouTube channel showing this mounting process as well as the balancing process.





To balance your vehicle on the rotisserie, remove the bolts that pin the T carriage in place and rotate the balancing head at point M to raise or lower the car. It is important the center of gravity of the car be aligned with the rotating axis of the rotisserie, signified below with a long white line. As you begin to spin the car, if the car is properly balanced, it will get neither easier nor harder to rotate the gear drive handle. If this is not the case, follow the steps below.

Example 1:

The handle gets harder and harder to turn as you begin to spin the car.

Stop rotating the car and return it back to the upright position. This means the center of gravity of the car is too low. Rotate the balancing head at point M to raise the car. Repeat this process until it is balanced. This DOES NOT require adjustment of the hydraulic bottle jack.

Example 2:

The handle gets easier and easier to turn as you begin to spin the car.

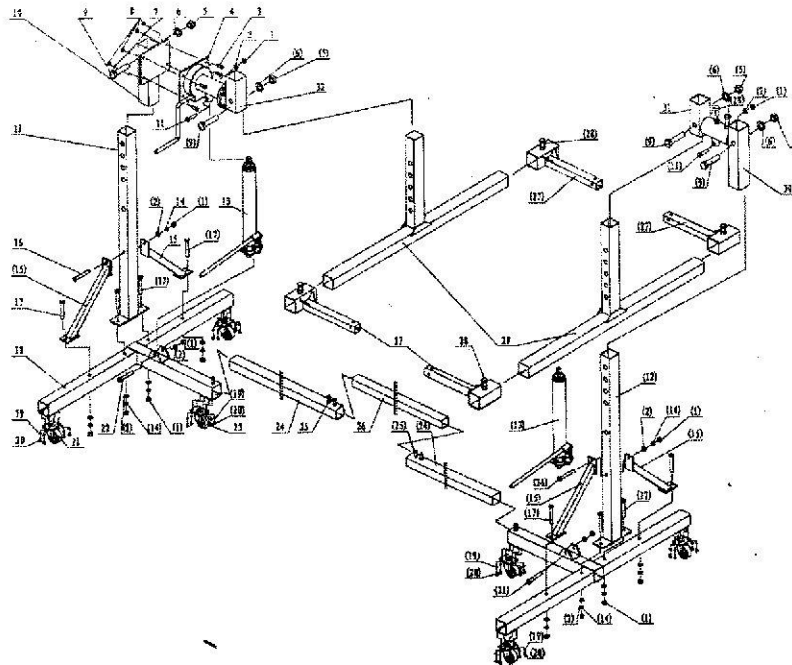
Stop rotating the car and return it back to the upright position. This means the center of gravity of the car is too high. Rotate the balancing head at point M to lower the car. Repeat this process until it is balanced. This DOES NOT require adjustment of the hydraulic bottle jack.



Warning:

Failure to properly balance the car can put too much stress on the gear drive and cause the shear pins inside the gear drive assembly to break. In that event, the car will not rotate quickly and uncontrollably, but it this will require repair of the gear drive.

Though the glass in the Nova above may still be in the car, we do not recommend rotating the vehicle with the glass installed. If enough deflection occurs in the body, the glass can easily break.



No.	Description	Qty.	No.	Description	Qty.
1	NutM16	14	17	BoltM16x110	8
2	Washer16	14	18	Base	2
3	BoltM13x35	4	19	Washer8	24
4	Hand Crank	1	20	BoltM8x14	24
5	NutM27	4	21	5"Caster w/brake	2
6	Washer27	4	22	BoltM16x90	2
7	Washer12	4	23	5"Caster	4
8	NutM12	4	24	Extension Tube	2
9	BoltM27x125	4	25	BoltM12x50	6
10	Mounting Arm1	1	26	Connection Tube	1
11	BoltM16x65	1	27	Adapter Arms	4
12	Rack Column	2	28	BoltM20x50	6
13	Hydraulic Jack	2	29	T-Arm	2
14	Washer16	10	30	Mounting Arm2	1
15	Column Support	4	31	Slave Pivot Attachment	1
16	BoltM16x120	2	32	Master Pivot Attachment	1