



EFI Hardware - Joiner-Balancer with Integrated Cable Pulley & Throttle Stop/Idle Adjustment  
Part # 811-072  
Technical Diagram - Page 1 of 2  
Drawing Revision 1 - 13/8/2014



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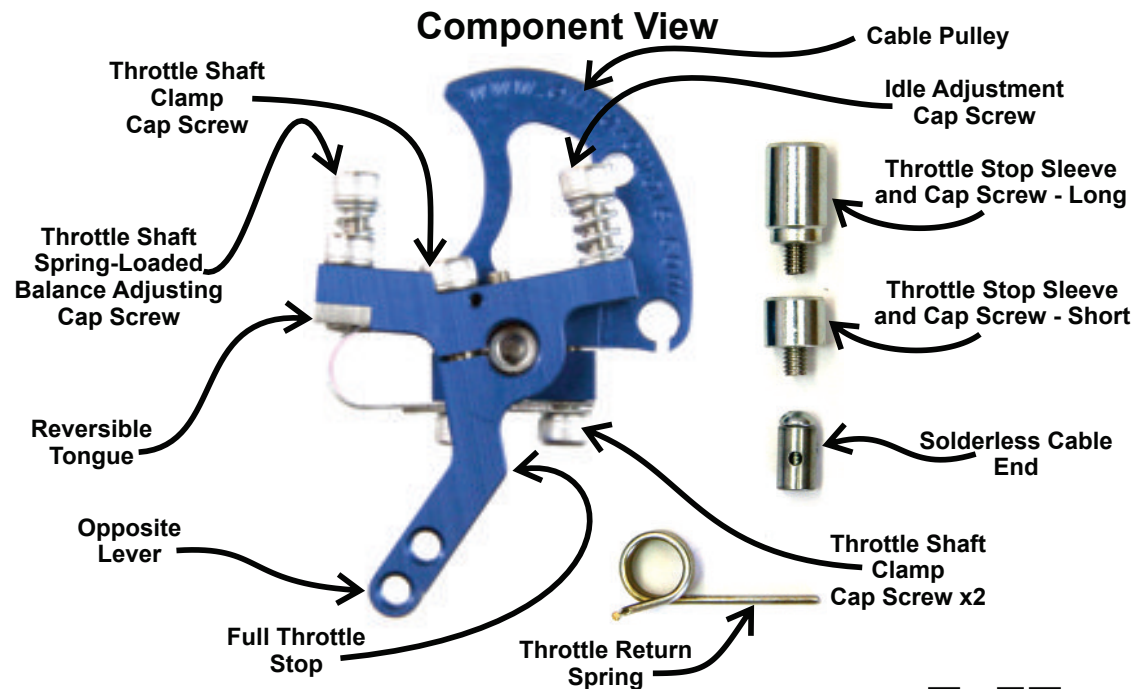


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**FEATURES / BENEFITS:** This linkage provides the benefit of incorporating a cable pulley, idle speed adjustment, spring return, full throttle stop and lever arm in one mechanism. Reversible Tongue allows you to fit in either left or right hand operation.

We have provided both short and long Throttle Stop Sleeves for use with or without the supplied return spring. The Opposite Lever allows attachment of extra or alternate springs if there is insufficient width between throttle bodies for the provided Throttle Return Spring. The Solderless Cable End allows any accelerator cable to be shortened and attached to the Cable Pulley.

811-070 is shipped with spring 810-001 (Counter Clockwise - Standard). If you wish to flip the Reversible Tongue (see Figure below left) you will need to order a Clockwise Spring (810-002) After initial fitment, you may prefer to change the spring rate up or down to suit your preferences - See details below under Throttle Return Spring Types.

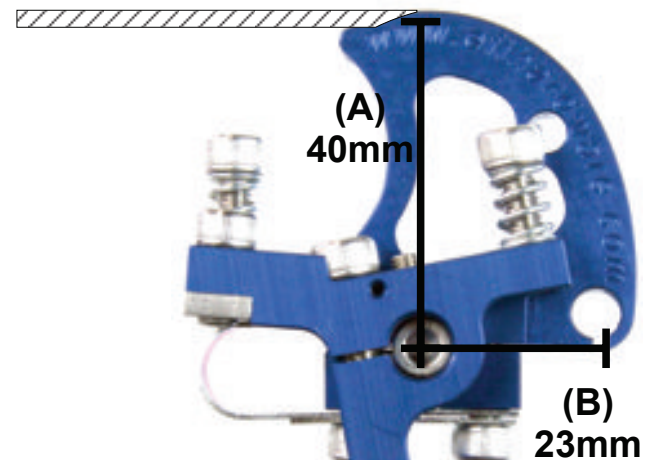


Checkout This Instructional Video  
[www.efihardware.com/efi\\_videos\\_technical.php#ThrottleStop](http://www.efihardware.com/efi_videos_technical.php#ThrottleStop)



### Variable Throttle Ratio

Correct Cable Entry Angle  
At The Closed Throttle Position



**NOTE:** Both linkage parts must be fitted to a round 8mm or 5/16" throttle shaft. Do not mount the linkage to a "D" sectioned shaft, as the Throttle Stop will come loose and move on the shaft.

Throttle Pulley ratio varies continuously from (A) to (B) to give the best "off idle" throttle control plus the quickest overall throttle response.



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## FITTING INSTRUCTIONS:

- If the throttle bodies are greater than 26mm apart, use the Long Throttle Stop Sleeve and Cap Screw, otherwise use the Short Throttle Stop Sleeve and Cap Screw.
- Determine which throttle body the Throttle Stop/Lever part of the linkage is going to be attached to. While looking into the end of this shaft, it will rotate Clockwise to open. The Cable Pulley part of the linkage is going onto the other throttle body and its throttle shaft will rotate Counter Clockwise to open.
- Take the Throttle Return Spring (if it is being fitted) and the Throttle Stop Linkage and insert the short 90° tang of the spring into the small hole of the Linkage.
- Align the spring's coil to the throttle shaft hole to the linkage and slide the assembly onto the throttle shaft. The long tang of the spring will need to be tensioned clear to allow the Idle Adjustment Screw past the top of the Throttle Stop Sleeve.
- The spring will now be located on the throttle shaft and between the Throttle Stop and the Throttle Body.
- Cut the shaft so that it does not protrude beyond the Throttle Stop/Lever half of the linkage set.
- Fit the throttle body to the manifold and measure the amount of shaft required on the second throttle body so that the shafts are approximately 1mm apart. Cut the second shaft to suit.
- Fit the second throttle body and assemble the Cable Pulley/Balance half of the linkage set onto the second shaft.

## HIGHLY RECOMMENDED ACCESSORIES

811-096 Pro-Cable Throttle Cable  
811-090 Pro-Cable Throttle Cable Mount

EFI Hardware Injector Flow and Power Calculator.  
[www.efihardware.com/apps.php](http://www.efihardware.com/apps.php)



## ADJUSTMENT INSTRUCTIONS:

- Open the throttle(s) fully and ensure they are at 90 degrees to the throttle bores.
- Rotate the Throttle Stop half of the linkage around the throttle shaft so that the Full Throttle Stop is hard up against the Throttle Stop Sleeve.
- Tighten the Throttle Shaft Clamp Cap Screw. The full throttle setting is now adjusted.
- Wind the Throttle Body Balance Adjusting Cap Screw until 3 threads are protruding through the threaded hole. This sets the Balancer Joiner part of the linkage so that there is even adjustment available in both adjustment directions.
- Now wind the Idle Adjustment Screw out until the Butterflies are holding the throttle shaft in the fully closed position.
- Close both sets of butterflies and tighten the 2 Throttle Shaft Clamp Cap Screws on the Cable Pulley half of the linkage set.
- Wind in the Idle Adjustment Screw until it just touches the Throttle Stop Sleeve. Now turn the Idle Adjustment Screw clockwise for one full rotation. Tighten the Idle Adjustment Screw Lock Nut. The closed throttle setting is now complete for initial startup.

NOTE: Minor adjustment of the Idle Throttle Adjustment Screw will be needed with the engine at normal operating temperature.

