# EFI Hardware - Cable Pulley with Throttle Stop, Idle Stop & Return Spring Mechanism

**Part # 811-060**

**Technical Diagram - Page 1 of 2**

**Drawing Revision 1 - 13/12/2012**


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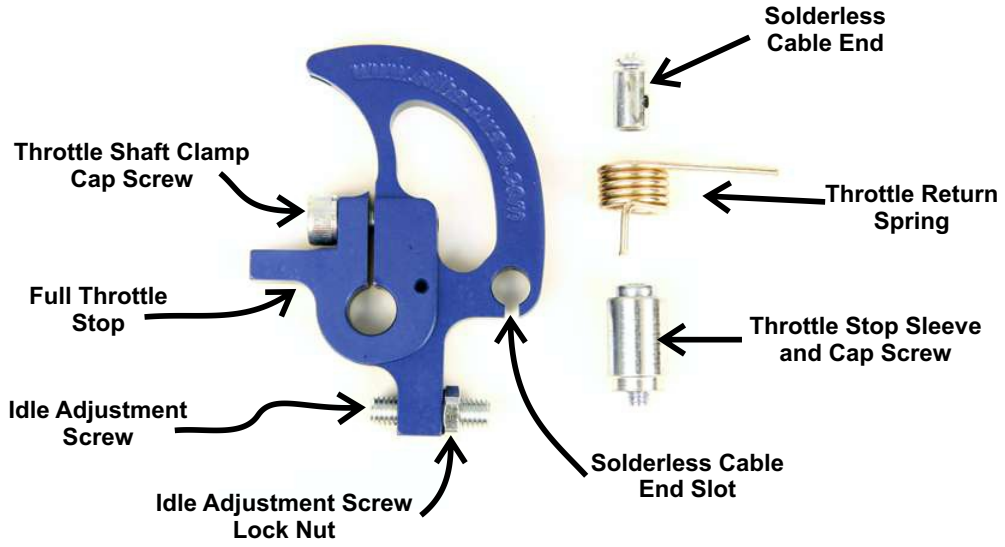
**FEATURES / BENEFITS:** This cable pull and throttle stop linkage arm provides the benefit of incorporating throttle/accelerator cable actuation as well as idle speed adjustment, spring return and full throttle stop in one mechanism.

The largest changes in airflow occur via throttle movements around the closed throttle position. The cable pulley provides improved drivability at low throttle openings thanks to its variable radius. As the throttle begins to move from the closed position, the actuation radius (A) is 43mm providing a slower opening rate than is achieved as the throttle approaches fully opened, where the actuation radius (B) is 23mm, or nearly half the radius, giving twice the throttle opening rate for the same amount of throttle cable movement. The final outcome is superb off idle throttle control and sharp mid to upper throttle response without using excessive throttle cable movement.

## Component View

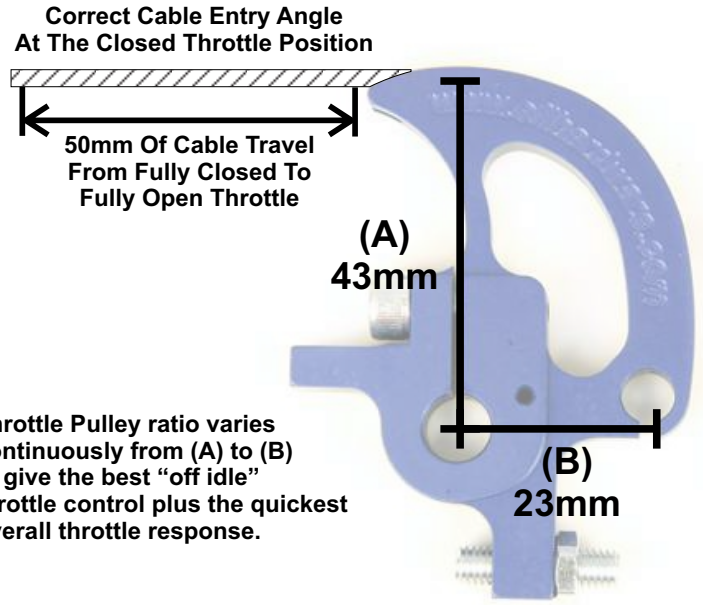



### Checkout This Instructional Video

www.efihardware.com/efi_videos_technical.php#ThrottleStop

## Variable Throttle Ratio

Due to the variable pulley ratio, the 811-060 only requires 50mm of linear throttle cable movement to actuate the throttle from fully closed to fully open.




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 accelerator bracket Pro-series or IDA (p/n 811-090) is being used, please fit this part in accordance with its own instructions.

- First determine which end of the throttle body the pulley is to be attached to. In a single throttle body application this will usually be opposite to the end to the Throttle Position Switch. On a multiple throttle body application this will usually be at the front most or rear most position of the complete multi unit assembly.

  NOTE: The Cable Pulley must be fitted to a round 8mm or 5/16" throttle shaft. Do not mount the Cable Pulley to a "D"sectioned shaft, as the Cable Pulley will come loose and move on the shaft.

- Looking at the end of the throttle body, determine which direction of rotation your throttle shaft operates (clockwise or counter clockwise).

- At the throttle body end, attach the long throttle stop sleeve to the throttle body using the supplied M4 x 16mm cap screw to the appropriate hole location.

- Take the Throttle Return Spring and linkage arm and insert the short 90° tang of the spring into the small hole of the linkage arm.

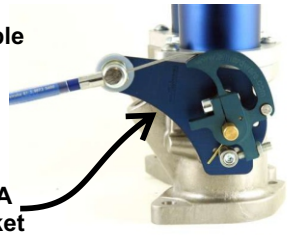
  NOTE: There are different Throttle Return Springs rates allowing you to tune your throttle and throttle pedal setup to suit your application and driving style. See the website for details - www.efihardware.com.

- Align the spring's coil to the throttle shaft hole of 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 be on the throttle shaft and between the Cable Pulley and the Throttle Body.

### HIGHLY RECOMMENDED ACCESSORIES

Universal Throttle Cable

811-090 IDA Cable Bracket



**EFI Hardware Mobile Apps**

www.efihardware.com/apps.php

## ADJUSTMENT INSTRUCTIONS:

- Due to the variable pulley ratio, the 811-060 only requires 50mm of linear throttle cable movement to actuate the throttle from fully closed to fully open.

- Open the throttle(s) fully and ensure they are at 90 degrees to the throttle bores.

- Rotate the Cable Pulley so that the Throttle Stop on the Cable Pulley Full Throttle Stop is hard up against the Throttle Stop Sleeve.

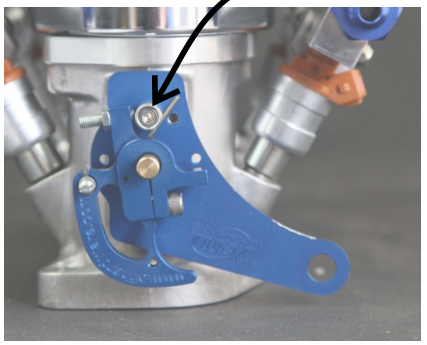
- Tighten the Throttle Shaft Clamp Cap Screw. The full throttle setting is now adjusted.

- Wind out the Idle Adjustment Screw until the Butterflies are holding the throttle shaft in the fully closed position. Wind in the Idle Adjustment Screw in 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.

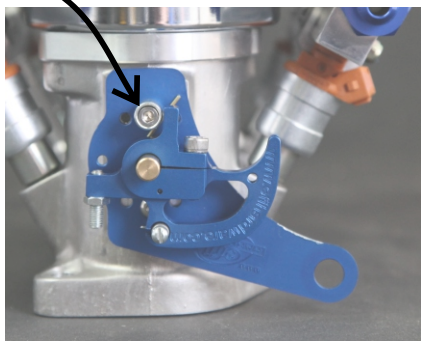
  NOTE: Minor adjustment of the Idle Throttle Adjustment Screw will be needed with the engine at normal operating temperature.

That's it! You've finished installing a Cable Pulley with Throttle Stop and Return Spring.

Throttle Stop Sleeve



**Throttle Fully Closed**
*NOTE: Idle Adjustment Screw Against Throttle Stop Sleeve



**Throttle Fully Open**
*NOTE: Full Throttle Stop Against Throttle Stop Sleeve