



**E BRAKE**  
*by Jacobs®*

**Parts Manual**  
**For ISB5.9/ISB02**  
**Engines**

# Application Notes

- A. The E Brake for the ISB5.9 and ISB02 engine is designed for vehicles equipped with the Cummins ISB Series engine (for ISB5.9, all horsepower ratings and for ISB02, less than 250 horsepower ratings). The kit for ISB5.9 engine is available in two turbo-mount versions and an in-line version. The kit for ISB02 engine is available in turbo-mount full marmon mounting joint version and standard inline version.

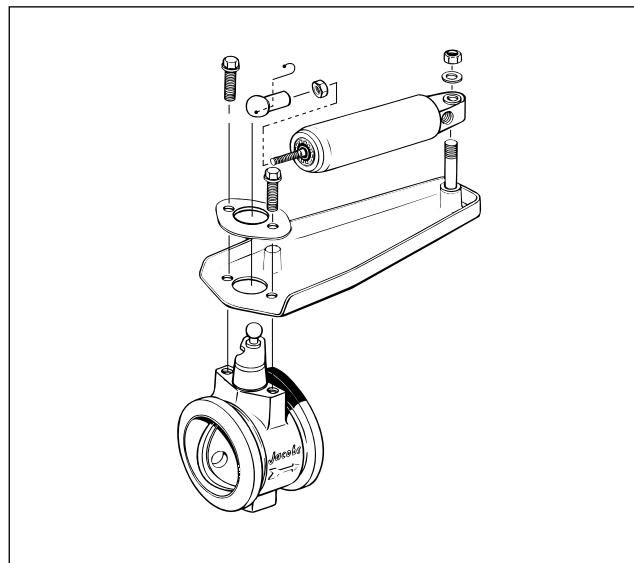
There must be a minimum of 3" clearance from any exhaust component to the vehicle firewall or body after the E Brake is installed. The E Brake housing extends approximately 3" from the turbo outlet. If the vehicle does not have the required clearance around the turbo, you must install the in-line kit, Cummins P/N 3800441 for ISB5.9 engine, and Cummins P/N 4089593 for ISB02 engine.

For Turbo-mount applications, determine the type of mounting joint on the vehicle turbocharger. See Figure 1 for an illustration of the half Marmon and full Marmon joint types. In ISB5.9 engine, for full Marmon applications, install kit P/N 3800443 and for half Marmon applications, install kit P/N 3800442. In ISB02 engine, for full Marmon applications, install kit P/N 4089591, and for half Marmon applications, install kit P/N 4089593.

- B. Pneumatic Groups are not included in the base kit and must be ordered separately. The type of pneumatic group required depends on the vehicle configuration. Vehicles equipped with an on-board air supply (vehicles with air brakes) require Pneumatic Group P/N 3806238. Vehicles equipped with hydraulic brakes require the installation of an auxiliary air supply system. For these vehicles, order Pneumatic Group with Air Supply, P/N 3806237.

| ISB02/F         | EXISB02 | EXISB   | ISB/H   | ISB/F   | Description          |
|-----------------|---------|---------|---------|---------|----------------------|
| 4089591         | 4089593 | 3800441 | 3800442 | 3800443 | E Brake Kit          |
| <b>Contains</b> |         |         |         |         |                      |
| 4089590         | 4089592 | 3800427 | 3806268 | 3806269 | Brake Assembly Group |
| 3803908         | 3803908 | 3803908 | 3803908 | 3803908 | Dash Switch Group    |
| 3803918         | 3803918 | 3803918 | 3803918 | 3803918 | Wire Harness Group   |

P/N = Part Number



Exploded view of exhaust brake assembly

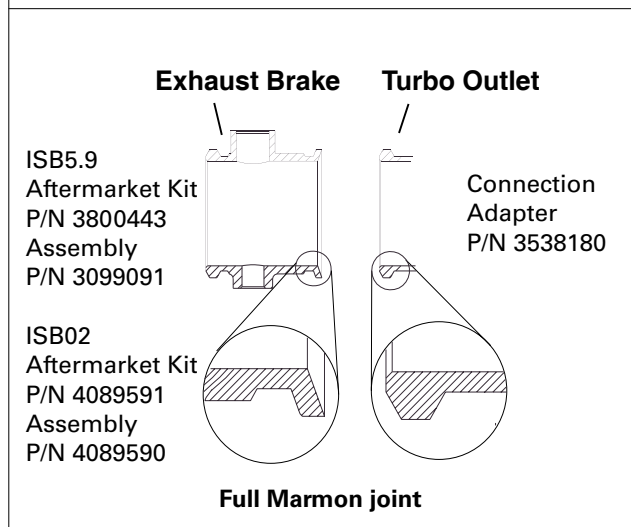
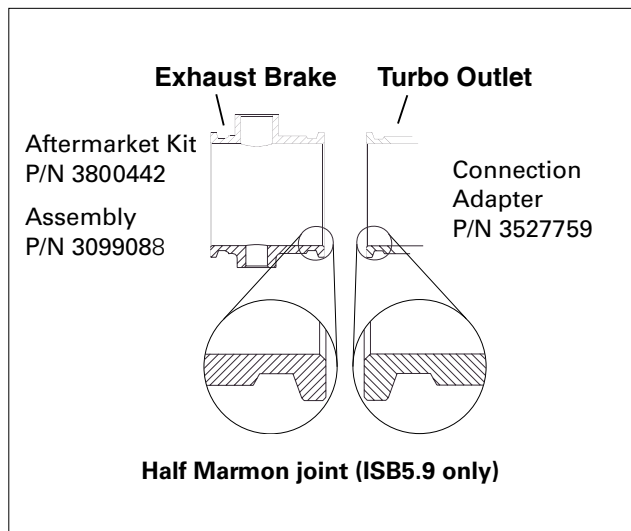


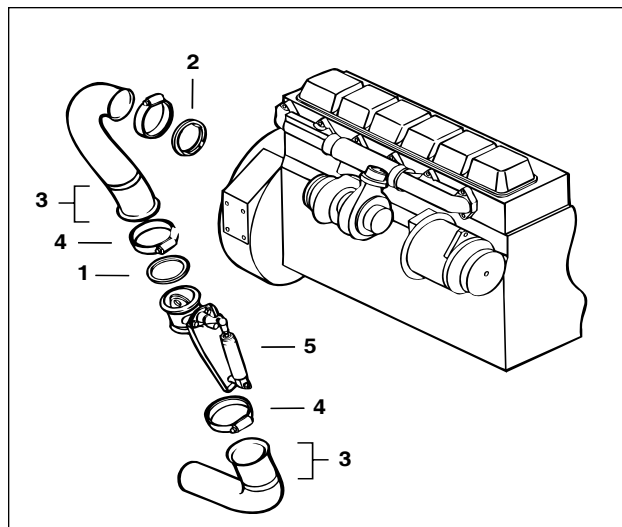
Figure 1

# Assembly Groups

## Assembly Group, In-line

III.

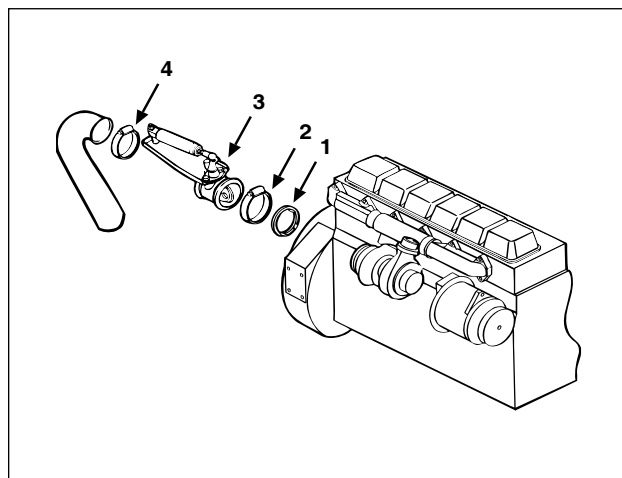
| No. | P/N     | Description               | ISB5.9<br>Quan./<br>Group | ISB02<br>Quan./<br>Group |
|-----|---------|---------------------------|---------------------------|--------------------------|
|     | 3803906 | Gasket group              | 1                         | 1                        |
| 1   | 3929057 | • Gasket                  | 1                         | 1                        |
| 2   | 3929058 | • Gasket                  | 1                         | 1                        |
| 3   | 3929059 | Exhaust sleeve (3")       | 2                         | 2                        |
| 4   | 3929060 | "V" clamp                 | 2                         | 2                        |
| 5   | 3099084 | E Brake assembly, in-line | 1                         | 0                        |
| 6   | 4089592 | E Brake assembly, in-line | 0                         | 1                        |



## Assembly Group, Half-Marmon Turbo Mount, P/N 3806268 (ISB5.9 Only)

III.

| No. | P/N     | Description                   | Quan./<br>Group |
|-----|---------|-------------------------------|-----------------|
| 1   | 3099094 | Gasket                        | 1               |
| 2   | 3903652 | Clamp                         | 1               |
| 3   | 3099088 | E Brake assembly, half-Marmon | 1               |



## Assembly Group, Full-Marmon Turbo Mount

III.

| No. | P/N     | Description               | ISB5.9<br>Quan./<br>Group | ISB02<br>Quan./<br>Group |
|-----|---------|---------------------------|---------------------------|--------------------------|
| 1   | 3099094 | Gasket                    | 1                         | 1                        |
| 2   | 3903652 | Clamp                     | 1                         | 1                        |
| 3   | 3099091 | E Brake assy, full-Marmon | 1                         | 0                        |
| 4   | 4089590 | E Brake assy, full-Marmon | 0                         | 1                        |

# Control Groups

## Dash Switch Group P/N 3803908

III.

| No. | P/N     | Description            | Quan./<br>Group |
|-----|---------|------------------------|-----------------|
| NI  | 3871243 | Dash switch            | 1               |
| NI  | NSS     | Switch plate (English) | 1               |
| NI  | NSS     | Switch plate (Spanish) | 1               |

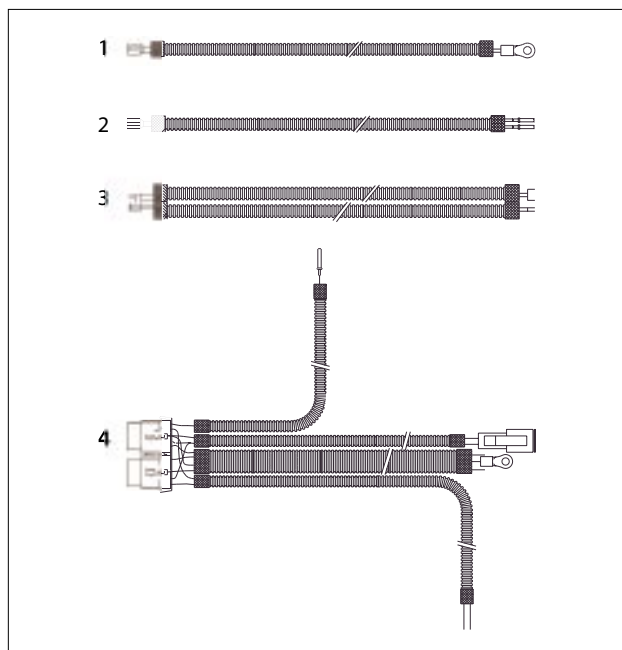
## Wire Harness Group P/N 3803918

III.

| No. | P/N     | Description                    | Quan./<br>Group |
|-----|---------|--------------------------------|-----------------|
| 1   | 3099283 | Dash switch ground harness     | 1               |
| 2   | 3099284 | Dash switch ECM harness        | 1               |
| 3   | 3099285 | Solenoid harness               | 1               |
| 4   | 3099286 | Engine harness (MD Trans only) | 1               |

NI = Not illustrated

NSS = Not sold separately



# Optional Equipment

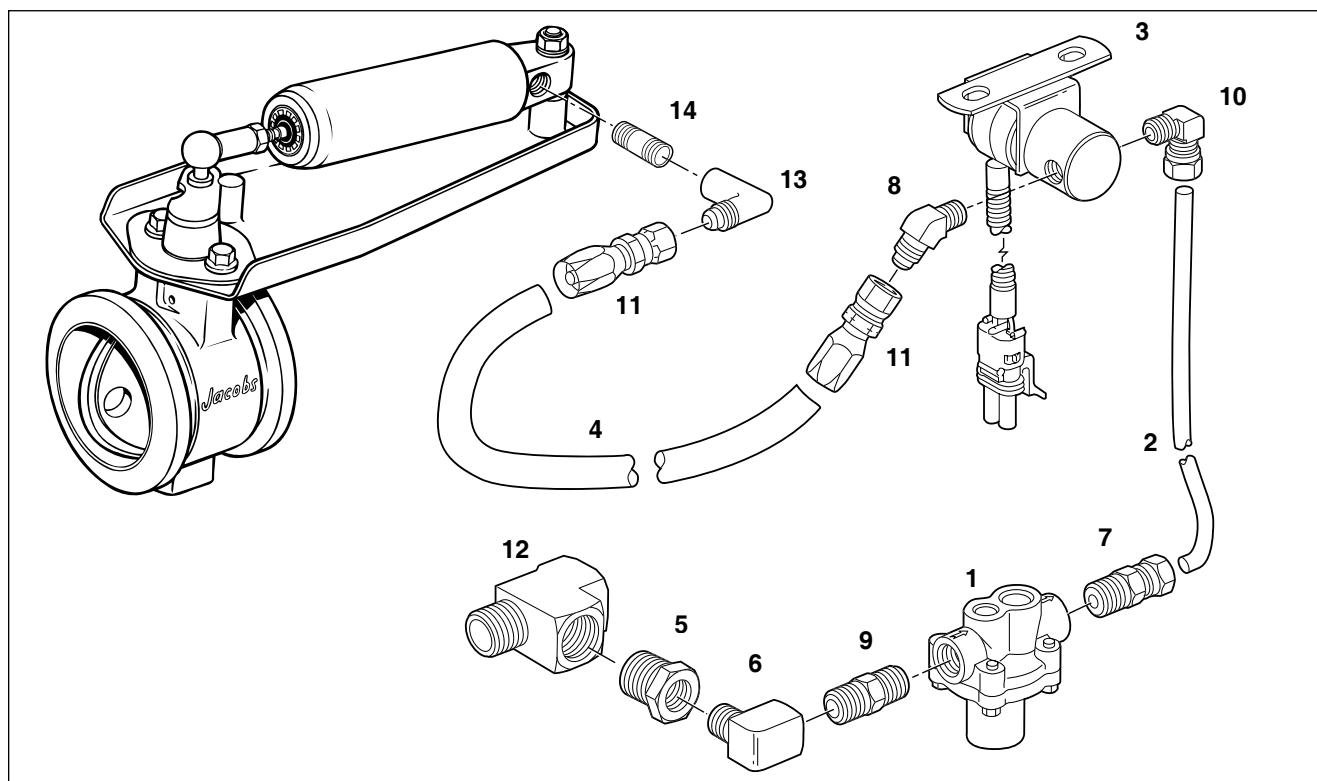
## Pneumatic Group, P/N 3806238

| III.<br>No. | P/N               | Description                      | Quan./<br>Group |
|-------------|-------------------|----------------------------------|-----------------|
| 1           | 3929050           | Protection valve                 | 1               |
| 3           | 3870850           | Solenoid valve assembly          | 1               |
|             | <b>3800409</b>    | <b>Pneumatic subgroup</b>        | <b>1</b>        |
| 2           | NSS               | • Air brake tube                 | 1               |
| 4           | NSS               | • Air brake hose                 | 1               |
|             | <b>NI 3806267</b> | <b>Clamp subgroup</b>            | <b>1</b>        |
|             | 3870853           | • Support clamp                  | 5               |
|             | <b>3800410</b>    | <b>Fastener group</b>            | <b>1</b>        |
|             | NSS               | • 1/4 - 20 x 1 hex bolt          | 5               |
|             | NSS               | • 1/4 - 20 hex nut               | 5               |
|             | NSS               | • Plain washer                   | 5               |
|             | NSS               | • Lock washer                    | 5               |
|             | <b>NI 3800450</b> | <b>Fittings subgroup</b>         | <b>1</b>        |
| 5           | NSS               | • Bushing                        | 1               |
| 6           | NSS               | • 90° street elbow, 1/4 NPT      | 1               |
| NI          | NSS               | • 45° flared, 90° elbow, 1/8 NPT | 1               |
| 7           | NSS               | • Compression fit. assy.         | 1               |
| 8           | NSS               | • 45° flared, 45° elbow, 1/8 NPT | 1               |
| 9           | NSS               | • Hex nipple                     | 1               |
| 10          | NSS               | • Compression fit. assy.         | 1               |
| 11          | NSS               | • Hose fitting assembly          | 2               |
| 12          | NSS               | • Pipe tee                       | 1               |
| 13          | NSS               | • Internal pipe adapter, 1/4 NPT | 1               |
| 14          | NSS               | • Nipple                         | 1               |

NI = Not illustrated  
NSS = Not sold separately

## Pneumatic Group w/ Air Supply, P/N 3806237

| III.<br>No. | P/N               | Description                      | Quan./<br>Group |
|-------------|-------------------|----------------------------------|-----------------|
| NI          | 3929062           | Air reservoir                    | 1               |
| NI          | 3929063           | Air compressor                   | 1               |
| NI          | 3099086           | Harness                          | 1               |
| 3           | 3870850           | Solenoid valve assembly          | 1               |
|             | <b>3800409</b>    | <b>Pneumatic subgroup</b>        | <b>1</b>        |
| 2           | NSS               | • Air brake tube                 | 1               |
| 4           | NSS               | • Air brake hose                 | 1               |
|             | <b>NI 3803917</b> | <b>Air supply subgroup</b>       | <b>1</b>        |
| NI          | 3929064           | • Drain valve                    | 1               |
| NI          | 3929065           | • Pressure relief valve          | 1               |
| NI          | 3929066           | • Check valve                    | 1               |
| NI          | 3929067           | • Pressure switch                | 1               |
|             | <b>NI 3806267</b> | <b>Clamp subgroup</b>            | <b>1</b>        |
|             | 3870853           | • Support clamp                  | 5               |
|             | <b>3800410</b>    | <b>Fastener group</b>            | <b>1</b>        |
|             | NSS               | • 1/4 - 20 x 1 hex bolt          | 5               |
|             | NSS               | • 1/4 - 20 hex nut               | 5               |
|             | NSS               | • Plain washer                   | 5               |
|             | NSS               | • Lock washer                    | 5               |
|             | <b>NI 3800411</b> | <b>Fittings subgroup</b>         | <b>1</b>        |
| NI          | NSS               | • 45° flared, 90° elbow, 1/8 NPT | 1               |
| NI          | NSS               | • Coupling                       | 1               |
| NI          | NSS               | • Bushing                        | 1               |
| 7           | NSS               | • Compression fit. assy.         | 2               |
| 10          | NSS               | • Compression fit. assy.         | 2               |
| 11          | NSS               | • Hose fitting assembly          | 2               |
| 13          | NSS               | • Internal pipe adapter, 1/4 NPT | 1               |
| 14          | NSS               | • Nipple                         | 1               |



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## Optional Equipment (continued)

### Optional Exhaust Sleeves

| III.<br>No. | P/N     | Description           | Quan./<br>Group |
|-------------|---------|-----------------------|-----------------|
| NI          | 3870851 | Exhaust sleeve 2 3/4" | 2               |
| NI          | 3870852 | Exhaust sleeve 3 1/2" | 2               |



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