



## South African Installation Options Guide

There are a number of different installation options when installing the Hydrapro EOH actuator. These installations allow for various different brake and trailer setups depending on your needs, preferences or trailer type.

As this is an EOH actuator, an axle with hydraulic slave cylinders (drum brakes) or hydraulic calipers (disc brakes) is required. If your trailer has mechanical cabled brakes a Hydro-Mechanical actuator is also required. For the best performance we suggest using an oil-filled hydraulic disc braked axle due to the ease of access to the brake calipers, dependability, durability and low maintenance of wheel bearings running in oil. Please consult with your axle manufacturer before selecting an EOH unit for the recommended working pressures. Hydrapro is available in 1000psi, 1200psi and 1600psi.

The Hydrapro EOH actuator requires an in-cab controller which sends a signal to the brake actuator when the tow vehicle's brake pedal is pressed. If you intend using the Hydrapro with a controller not supplied by us, please ensure that it fits the requirements, is intended for EOH units and is the proportional inertia type. Time based controllers are not suitable and will damage the unit.

For trailer hire applications, we have an on-trailer installation option. This does not require any tow vehicle installation but does not offer all the features of the in-cab controller. This installation also requires a battery installation on the trailer. This battery will need to be charged manually and maintained.

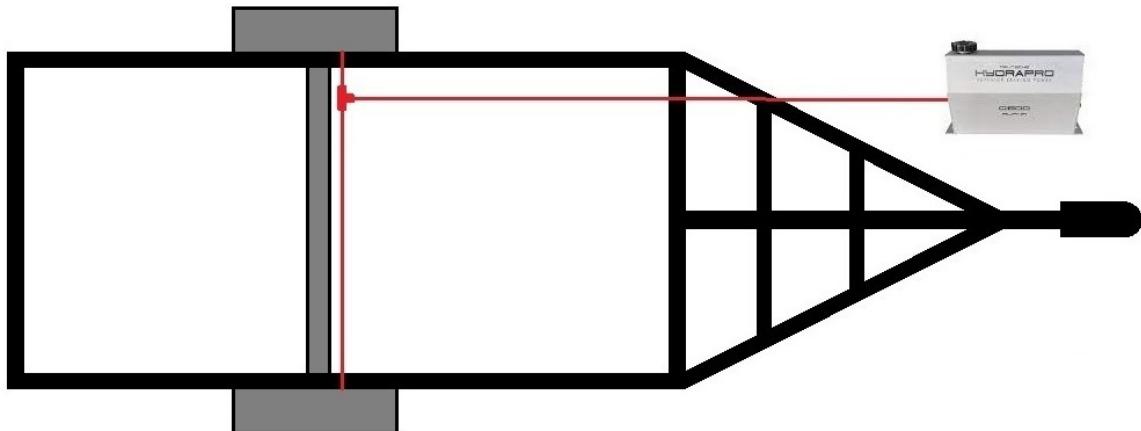
With the use of our inline master cylinder, installing the Hydrapro in addition to a hydraulic surge (overrun) brake and/or parking brake and/or breakaway system is possible. You are able to mechanically lock the surge (overrun) coupler when the Hydrapro is used. This makes it possible to switch between towing vehicles with and without brake controllers by simply engaging or disengaging the surge coupler lock. To have these added features, replace your current master cylinder (existing trailer) with or install (new trailers) our inline master cylinder.

Please check the fluid volume consumed by your calipers or slave cylinders before selecting a master cylinder. Hydrapro inline master cylinders are available in 0.625" bore and 0.75" bore.

Check our Products page on our website for a package that best suits your requirements.

For more information or additional enquiries, please email [technical@hydrapro.co.za](mailto:technical@hydrapro.co.za).

## Basic Hydraulic installation



### Warning:

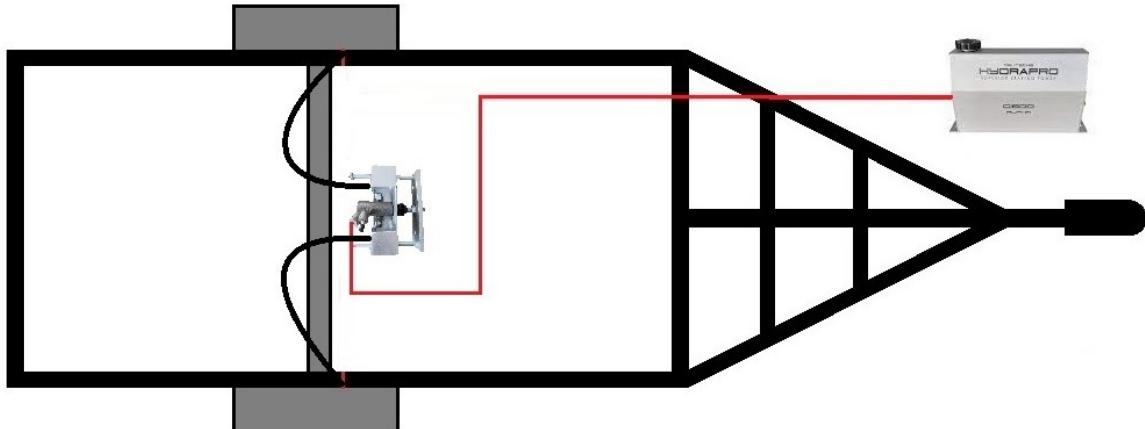
All brake lines and hydraulic fittings must be compatible with DOT3 and DOT4 brake fluid.

A minimum of 3/16" diameter automotive brake line is required.

This system requires the following fittings.

Hydapro brake actuator 3/8 24 UNF double flared

## Basic Hydraulic installation for Mechanical Brakes



### Warning:

All brake lines and hydraulic fittings must be compatible with DOT3 and DOT4 brake fluid.

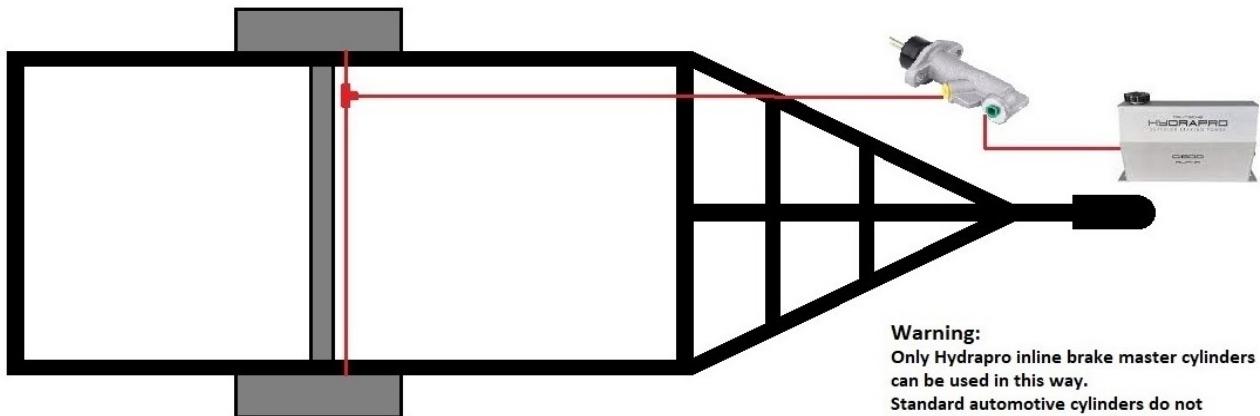
A minimum of 3/16" diameter automotive brake line is required.

This system requires the following fittings.

Hydapro brake actuator 3/8 24 UNF double flared

Hydro-Mechanical Actuator 3/8 UNF bubble flared

## Hydraulic installation with Hydraulic park brake or when retaining an existing hydraulic Surge brake installation



The Hydapro master cylinder can be used to retain an existing surge brake installation and/or can be used as part of a mechanical hydraulic parking brake and breakaway system.

A minimum of 3/16" diameter automotive brake line is required.

This system requires the following fittings.

Master cylinder input 7/16 20 UNF double flare

Master cylinder output 3/8 24 UNF bubble flare

Hydapro brake actuator 3/8 24 UNF double flare

### Warning:

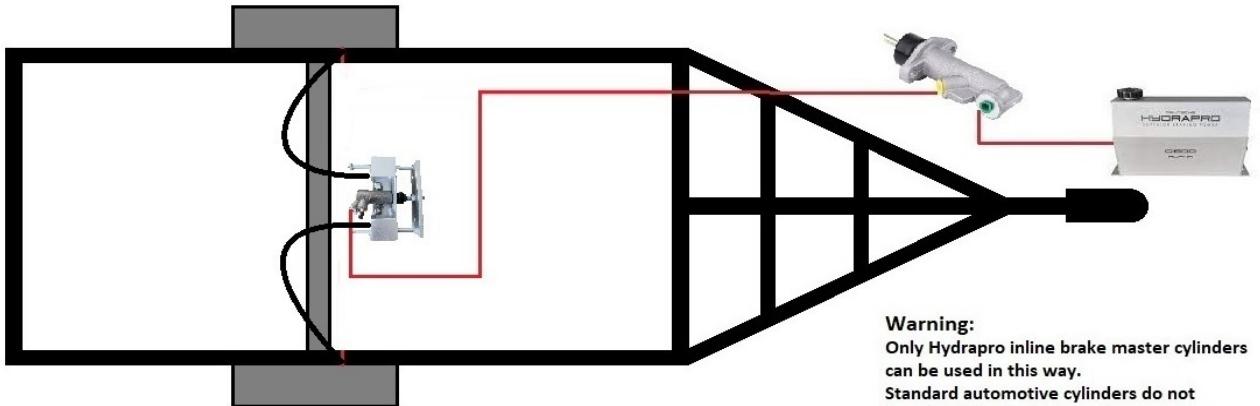
Only Hydapro inline brake master cylinders can be used in this way.

Standard automotive cylinders do not function inline and can not be used.

The use of an incorrect master cylinder may cause damage to the brake actuator.

All brake lines and hydraulic fittings must be compatible with DOT3 and DOT4 brake fluid.

## Hydraulic installation with Hydraulic park brake and Mechanical Brakes



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This system requires the following fittings.

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Master cylinder output 3/8 24 UNF bubble flare

Hydapro brake actuator 3/8 24 UNF double flare

Hydro-Mechanical Actuator 3/8 24 UNF bubble flare

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### Important to Note

Most new model vehicles use a Multiplex or CAN-Bus system. The brake pedal signal is therefore fed directly into the vehicle's ECU. Vehicle manufacturers therefore recommend that a Bypass Relay is installed when fitting a tow bar in order to separate the trailer and vehicle electrical systems.

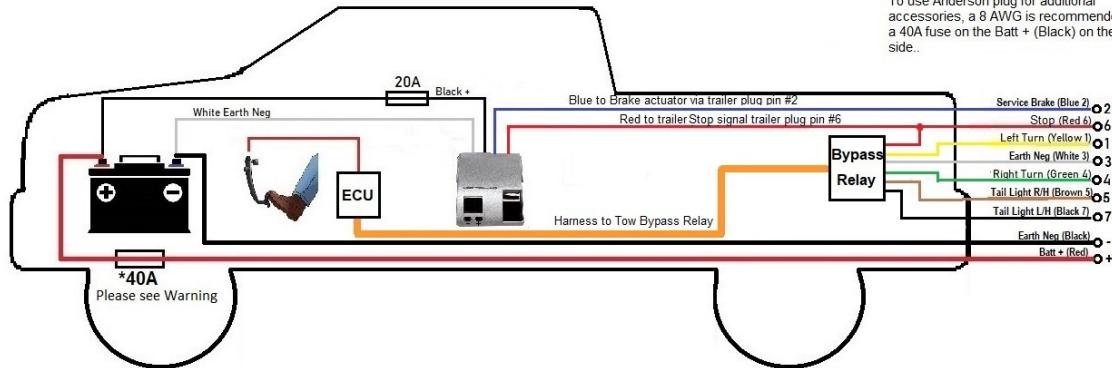
**"AA."** If the vehicle is fitted with a Bypass Relay, the red wire must be connected on the trailer side of the Bypass Relay or directly to the towing plug socket pin 6.

"BB" If the vehicle is not fitted with a Bypass Relay, a Hydapro "Feedback Protection" device is required as per below.

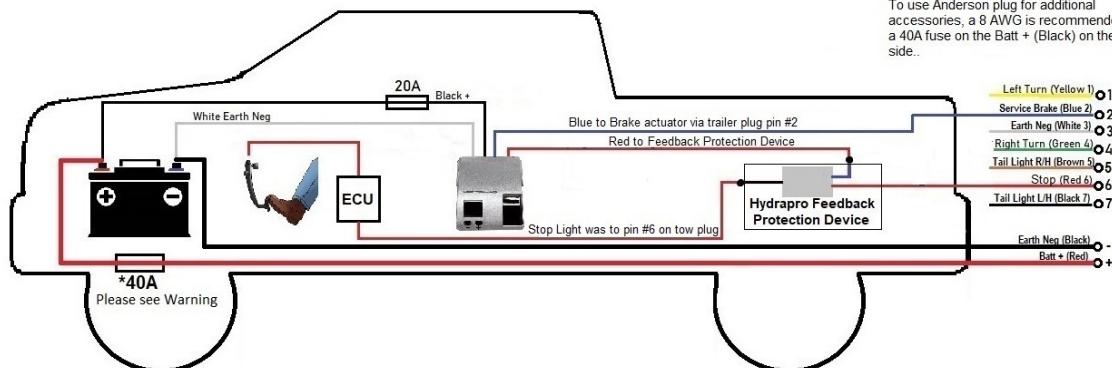
This is important to prevent feedback from the brake controller to the vehicle's ECU.

Without feedback protection on the brake light wire, the vehicle may experience ECU errors, ABS malfunctions, Adaptive braking malfunctions, Automatic brake malfunctions, Traction control malfunctions as well as other serious ECU input errors.

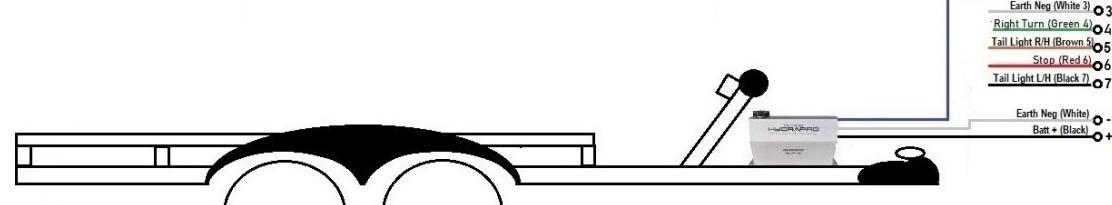
## **"AA" Standard Electric installation**



## **"BB" Standard Electric installation**



## Basic Trailer Electric Installation



### Warning

The black Batt+ and white Earth (Ground) wires gauge must match the \*A fuse in the tow vehicle.



#### Important to Note

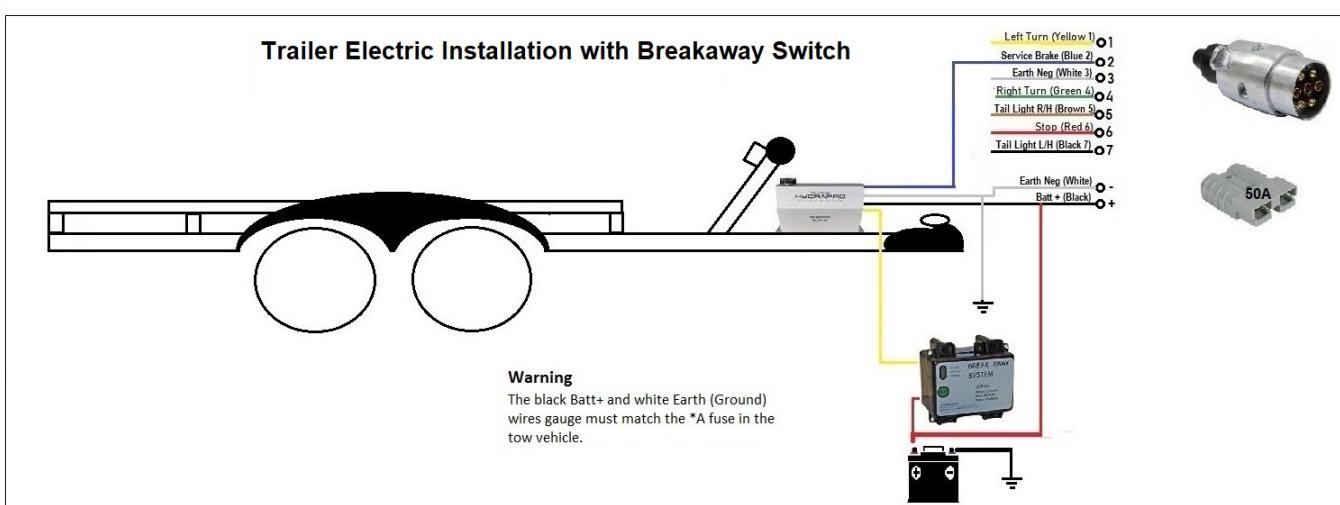
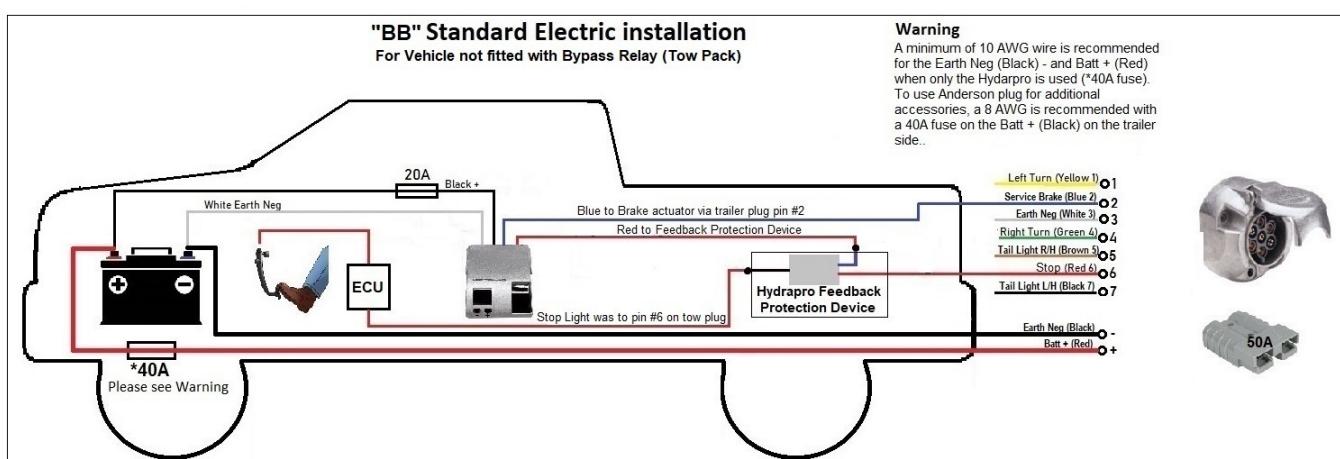
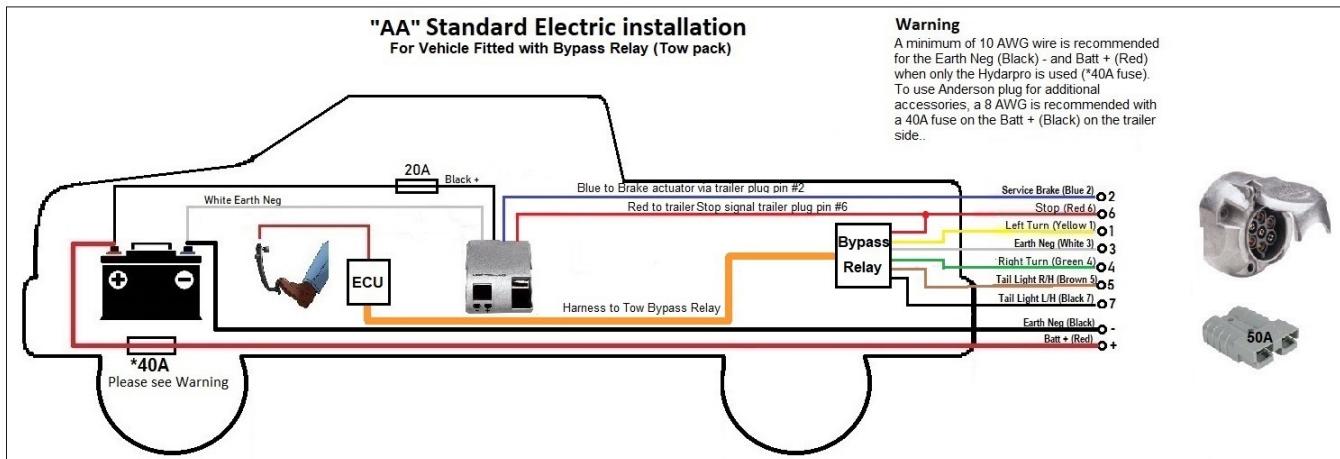
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## Electric installation on trailer only

### Warning

A minimum of 8 AWG wire is recommended for the Earth Neg (Black) - and Batt + (Red) when only the Hydarpro is used (\*40A fuse). To use Anderson plug for additional accessories, a 6 AWG is recommended with a 40A fuse on the Batt + (Black) on the trailer side...

