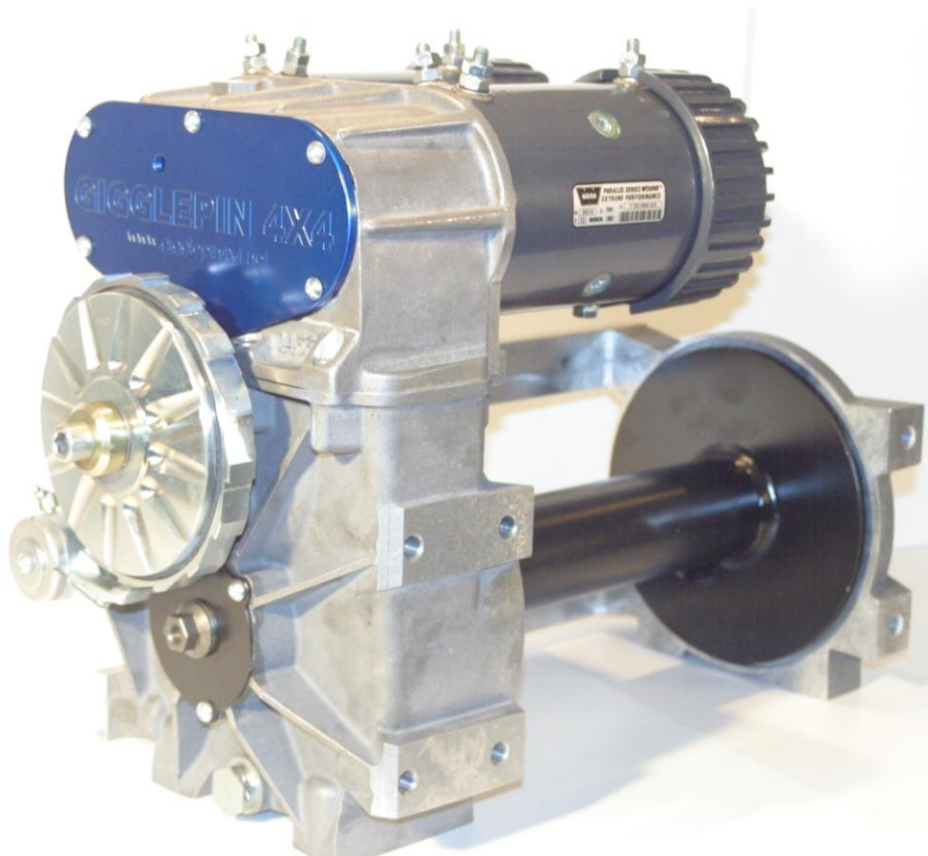




GP Winch Handbook & Operators **Manual**



Applicable to GP81/82/83/84 models

Serial no's: 239 onwards

Tel: 0429 363 745 E-mail: wayne@smithiengineering.com.au Web: www.smithiengineering.com.au

Smithi Engineering
Australian Supplier of Giggiepin Products

Contents Page:

Page 3:	Introduction Mountings Wiring
Page 4:	Winch ropes & cables Free spool fitting & operation Using your Gigglespin winch
Page 5:	Maintenance Spare parts
Pages 6-11:	Gigglespin winch step by step construction guide
Page 12:	Twin motor wiring diagram
Page 13:	GP81 lower housing free spool wiring diagram
Page 14:	Gigglespin winch dimensions

Tel: 0429 363 745 **E-mail:** wayne@smithiengineering.com.au **Web:** www.smithiengineering.com.au

Smithi Engineering
Australian Supplier of Gigglespin Products

Introduction

The Gigglepín range of competition winches have been designed and built to give the highest level of performance in a demanding world.

Using materials and designs that set it apart from all its competitors, it is the standard that others aspire to.

Our winches have been built to give the end user total reliability in the toughest of situations and supply unequalled power, speed and reliability at those critical moments.

This manual will provide you with the information that you require to fit, use and maintain your Gigglepín winch.

Mountings:

Gigglepín winches have 12 mounting bolt positions and can be fitted standing or lying flat. A minimum of six retaining bolts must be used at all times.

A winch mount/plate with a minimum thickness of 8mm must be used and be well secured to the vehicle. Failure to do so could result in damage to the winch or vehicle.

Warning

Failure to fit the winch correctly could result in damage to the winch or vehicle.

Fitting of the winch to a weak or bent winch plate could result in poor operation or damage to the winch or freespool mechanism.

Wiring

This winch is supplied with two Albright contactor packs and a wiring diagram. Please follow the next tips.

- 1/ Use 60/70mm² Cable from the batteries to the contactors via a suitable cut off switch.
- 2/ Use 60/70mm² cable from the battery earth (ground) to the motor earth (ground) points
- 3/ Use 40/50mm² or larger cable from the solenoids to the motors.
- 4/ Fit the contactors as close to the winches as possible.
- 5/ Use quality batteries, we recommend Odyssey PC1500 or PC1700
- 6/ Use quality cable and battery terminals that are professionally fitted
- 7/ The use of a 100amp (12v) plus alternator is recommended.
- 8/ Always use quality motors from a known source. We recommend the use of matched motors.

Warning

Tel: 0429 363 745 **E-mail:** wayne@smithiengineering.com.au **Web:** www.smithiengineering.com.au

Smithi Engineering
Australian Supplier of Gigglepín Products

Failure to earth (ground) the winch correctly or to use incorrect cables could result in damage to the winch or vehicle electrical system

Winch ropes and cables

Our winches are very powerful and require strong ropes to avoid breakages.

We recommend the use of 11mm Rufftraks Plasma synthetic rope or the equivalent strength. (10.5ton/21000lb)

We do not recommend the use of steel rope. However if it must be used we advise that a minimum of 10mm is used with a roller fairlead.

Warning

The use of old, damaged or unsuitable ropes or cables could cause personal injury or damage to the vehicle/winch.

Free spool fitting and operation

Follow the simple diagram for fitting the freespool control solenoid and operating switch and pipe work. (Page 13)

When mounting the switch, try to mount it in a position where it is easily seen and cannot be knocked accidentally.

When using the freespool for the first time, follow these simple rules to ensure positive operation:

- 1/ Before disengaging the free spool, be sure there is no load on the winch or cable.
- 2/ When removing cable from the drum, take care not to accidentally knot the rope.
- 3/ After reengaging the free spool we recommend that you run the winch 'out' approx 1 metre and then 'in' to allow the freespool mechanism to engage fully before applying load.

Warning

Failure to follow the above instructions could result in injury or damage to your winch.

Using your Giggiepin winch

Giggiepin winches are very fast and powerful and require respect during use.

Here are a few tips and techniques that will help you get the most from your winch.

- 1/ Place your winch switches in a location where they are easy to use and see, also somewhere they cannot be knocked easily.
- 2/ NEVER put your limbs close to the fairlead or near the winch during operation.
- 3/ Always make sure you use a secure winching point/ground anchor.
- 4/ Do not stall your winch, if your winch should slow down or near stalling STOP. Check for obstructions under or in front of your vehicle or possible faults with your electrical system.

Tel: 0429 363 745 **E-mail:** wayne@smithengineering.com.au **Web:** www.smithengineering.com.au

Smithi Engineering
Australian Supplier of Giggiepin Products

5/ Always allow the winch to stop turning before switching in a different direction.

6/ When winching, try to keep your wheels turning at the same speed as the winch. This will help aid traction and help get the most from the winch.

7/ Always keep the winch line under tension this will help to eliminate the chance of over spooling or ropes becoming wrapped around the winch, which could lead to breakages or premature rope failure. It will also reduce the risk of "dynamic" loading and therefore increase reliability.

8/ Do not allow the cable to 'Bunch' on the drum this could lead to the tie bars being bent or in the worst case actually breaking the winch casing and or damaging the rope.

Maintenance

Care of your Gigglespin winch is paramount to its reliability and continuing high performance.

Here are a few tips and recommendations:

The Gigglespin winch holds 0.25 litre of oil and various grades can be used dependant on location and temperature of climate. We recommend using a GP 1 shot SAE 30 winch oil (G10014) for most climate conditions, when in extreme cold climates use Dextron 11 ATF.

The winch oil should be changed on a regular basis at least yearly. It is recommendable to replace the winch oil after 3 days of competition use.

After prolonged use we recommend the stripping of the motors and cleaning. Check the brushes and holders for correct operation.

Clean the brake assembly using water to remove mud and dust, after cleaning apply a thin film of water repellent (WD40 or equivalent) The use of oil based products is ok as Gigglespin winch brakes can be run dry or with grease and oil.

Note:

Do not leave the brake assembly locked. Always make sure the ratchet can turn freely if the winch is being stored between events.

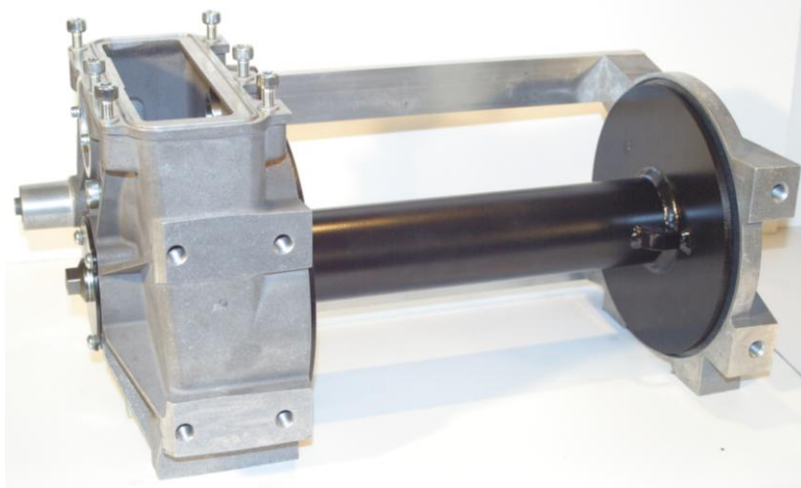
Spare parts:

A full range of consumables, service and spares parts are available for the Gigglespin winch range. Contact your local dealer for pricing.

Tel: 0429 363 745 **E-mail:** wayne@smithiengineering.com.au **Web:** www.smithiengineering.com.au

Smithi Engineering
Australian Supplier of Gigglespin Products

GP81 Rev 4 **Free spool drum** **build instruction manual:**



Tools required:



1. Circlip Pliers (Inner & Outer)
2. Alan Keys. (3mm, 4mm, 6mm, 8mm & 10mm)
3. Soft Blow hammer
4. Degrease/brake & clutch cleaner
5. Rubber/multi purpose grease
6. Sealant
7. 12mm socket or spanner

Step-by-Step Instructions:

Step 1:



Remove winch drum & strip winch completely so that lower hosing is bare.

Tel: 0429 363 745 **E-mail:** wayne@smithengineering.com.au **Web:** www.smithengineering.com.au

Smithi Engineering
Australian Supplier of Giggiepin Products

Step 2:

Place the large 50 tooth gear into the lower housing with the shoulder facing towards the smaller hole.

Note: The early large gears do not have a recess in the face, these will require machining or replacing with later type gears so that the free spool drive fits.

Step 3:

Prepare the mainshaft for fitting.

Top Tip: Before fitting the Mainshaft & cam gears in intermediate gear. Ensure the dog teeth on the smooth bored (large) cam gear are aligned with the woodruff key grooves in the mainshaft.

Step 4:

Fit 48 tooth intermediate gear into lower housing with the shoulder facing the large hole. Ensure that the large spacing washer & circlip are to hand ready for step 5.

Step 5:

Insert the mainshaft & cam gears into the gearbox and through the intermediate gear, make sure the mainshaft & smaller cam gear pass through the spacing washer & circlip. The mainshaft must be fully seated into the support bearing! Now fit the large circlip to the small cam gear.

Note: Ensure the mainshaft "o" ring seal is fitted before the mainshaft is inserted.

Top Tip: A small amount of bearing lock compound smeared into the mainshaft bearing will ensure the mainshaft doesn't spin in the bearing

Tel: 0429 363 745 **E-mail:** wayne@smithiengineering.com.au **Web:** www.smithiengineering.com.au

Smithi Engineering
Australian Supplier of Giggiepin Products

Step 6:



Once the mainshaft, cam gears & 48 tooth intermediate gears are in place, lay the gearbox casing down to fit the bronze bush.

Top Tip: A small amount of bearing lock compound smeared onto the outside of the bush ensures the bush doesn't spin in the gearbox housing.



Now fit the gearbox housing oil seal & tighten the retaining bolts..

Top Tip: While holding the mainshaft, turn the intermediate gear so the large cam gear pushes out of the casing. Add a liberal smear of all purpose grease to the seal. Slide the seal over the gear and then tap home into the casing.

Step 7:



Turn the housing over and fit the large gear into the 50 tooth main gear. Take care not to damage the bearing on the other side of the casing.

Note: Make sure all are gears are Clean & grease/dirt free.

Insert the needle bearing into the gear.

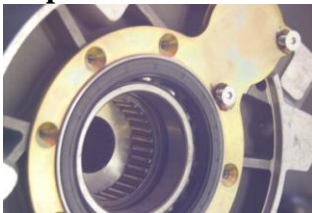


Step 8:



Degrease bearing aperture & bearing. Apply sealant & fit. Knock home carefully with a soft blow hammer.



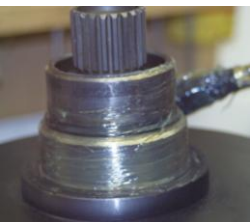
Step 9:






Prepare bearing retention plate and drum oil seal ready to fit. Apply anti corrosion compound to counter sunk bolt holes & align gasket. Fit and tighten all bolts evenly.

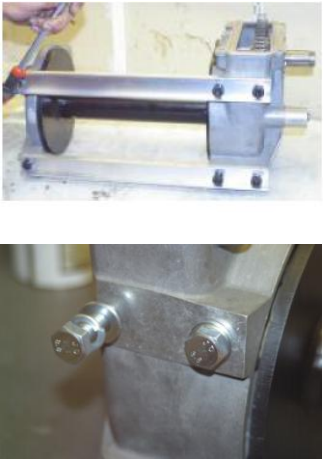
Tel: 0429 363 745 E-mail: wayne@smithiengineering.com.au Web: www.smithiengineering.com.au


Smithi Engineering
Australian Supplier of Giggiepin Products

<p>Step 10:</p>   	<p>Prepare winch drum ready to fit. Apply rubber grease to “o” ring seals on drum insert. Ensure drum insert is aligned, then push into place. Apply thread lock compound to securing bolt and tighten.</p> <p>Apply silicone grease to “o” ring seals on piston gear, align with drum and push into place.</p> <p>Liberaly apply all purpose grease to bearing and seal surfaces on drum using a small brush.</p> <p><i>Note: Only 1 “o” ring is required on the piston gear.</i></p>
--	--

<p>Step 11:</p>  	<p>Prepare the drum support plate. Remove bearing retention disc and bearing. Liberaly apply grease to bearing and re-fit ensuring seal is facing out. Apply anti corrosion compound to retention disc bolt holds and re-fit.</p> <p>Fit grease nipple & purge bolt.</p> <p><i><u>Top Tip:</u> When greasing the end plate, ensure the purge bolt to removed.</i></p>
--	---

<p>Step 12:</p> 	<p>Now fit the free spool piston assembly. Apply all purpose grease to piston and washer bearing.</p> <p>Evenly tighten all 3 mounting bolts.</p> <p><i><u>Top Tip:</u> By fitting the piston at this early stage helps to align the drum when fitted.</i></p>
--	--

<p>Step 13:</p> 	<p>Fit drum end support & brace bars & fairlead.</p> <p>6x M12 x 35 bolt are supplied complete with washers and spring washers.</p>
--	---

<p>Step 14:</p> 	<p>Fit the brake pawl mechanism.</p> <p><i><u>Note:</u> Ensure that the brake pawl is “primed” before the brake assembly is fitted.</i></p> <p><i><u>Top Tip:</u> When using +40, 50 or 60% ratio’s or when running 12V motors with 24V supply we recommend re location of the brake pawl grease nipple. This will prevent the nipple damaging the ratchet of the brake assembly. On Later models this upgrade has been done prior to dispatch.</i></p>
---	---

<p>Step 15:</p>	<p>Now fit the top housing, make sure to apply a bead of sealant between the top and bottom housings.</p> <p><i><u>Note:</u> A gasket is available to fit the coloured side cover plate to the top housing.</i></p> <p>Now add 0.3ltr of winch oil. (G10014)</p>
------------------------	--

Tel: 0429 363 745 E-mail: wayne@smithiengineering.com.au Web: www.smithiengineering.com.au

Smithi Engineering
Australian Supplier of Giggiepin Products



Step 16:



Now fit the brake assembly.

Note: DO NOT forget to prime the pawl mechanism prior to sliding the brake assembly onto the mainshaft.

Note: Replacement brake shoes (G60101), Seal and bearing kit (G60401) and brake hardware kit (G90002) are all available from your local dealer.

Step 17:



Fit the winch motors of choice.

Note: Winch motor gaskets are available when fitting winch motors

Note: Motors shown are Warn XP 6HP 12v models (PN: 68608)

Step 18:

Mount your winch securely to your vehicle.

Note: Refer to page 3 for mounting recommendations.

Wire your winch & free spool.

Note: Refer to pages 12 & 13 for wiring diagrams.

Fit your winch rope.

Tel: 0429 363 745 **E-mail:** wayne@smithengineering.com.au **Web:** www.smithengineering.com.au

Smithi Engineering
Australian Supplier of Giggiepin Products



If you have any questions regarding any stage of the above, please don't hesitate to contact your local dealer.

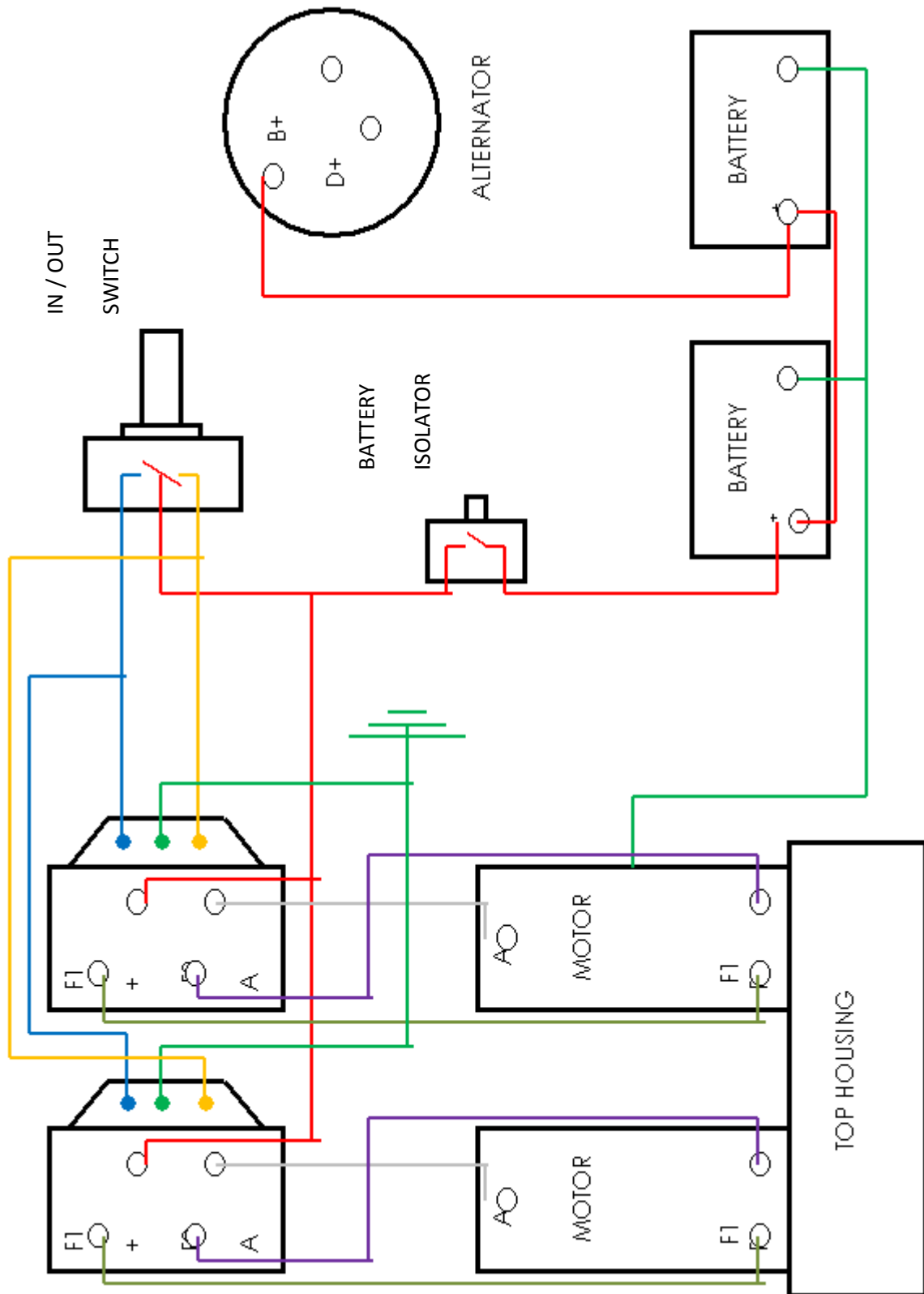
For "bolt on" mounting to Land Rover Defender, we strongly recommend use of the D44 competition bumper.

D44 also manufacture a "Universal" winch cradle for other applications.

Tel: 0429 363 745 **E-mail:** wayne@smithiengineering.com.au **Web:** www.smithiengineering.com.au

Smithi Engineering
Australian Supplier of Giggiepin Products

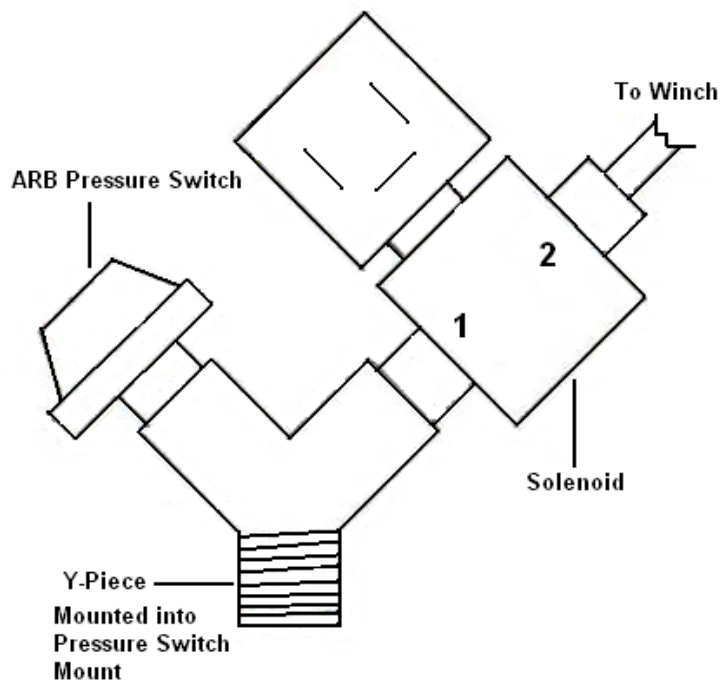
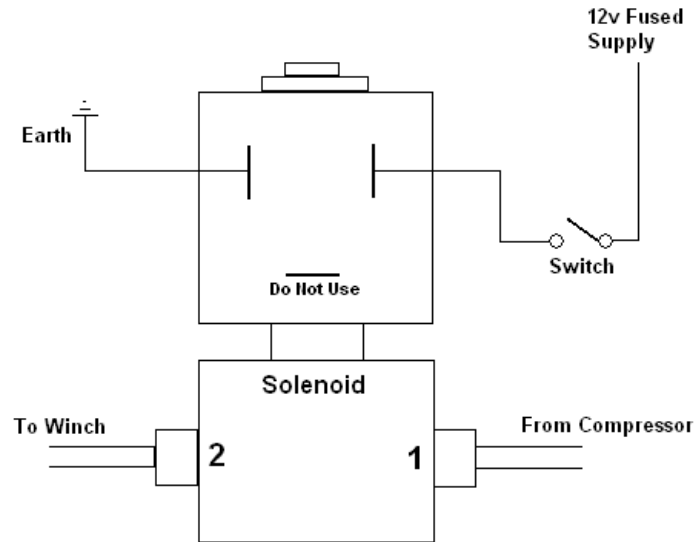
GP82/83 wiring diagram:



Tel: 0429 363 745 E-mail: wayne@smithengineering.com.au Web: www.smithengineering.com.au

Smithi Engineering
Australian Supplier of Giggiepin Products

GP82/83 free spool wiring diagram:



Tel: 0429 363 745 E-mail: wayne@smithengineering.com.au Web: www.smithengineering.com.au

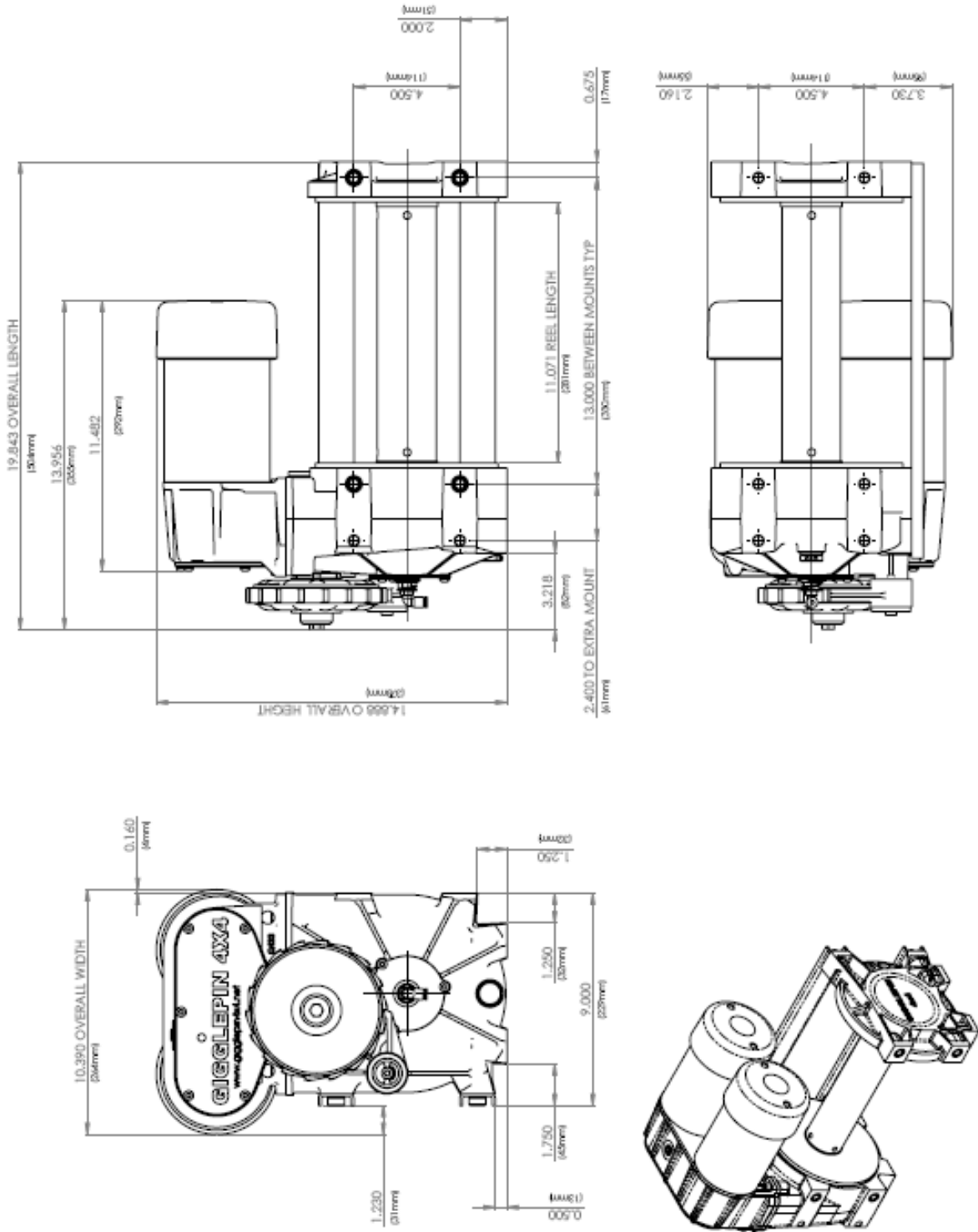
Smithi Engineering
Australian Supplier of Giggiepin Products

Tel: 0429 363 745 **E-mail:** wayne@smithiengineering.com.au **Web:** www.smithiengineering.com.au

Smithi Engineering
Australian Supplier of Gigglespin Products

GP82/83

dimensions:



Tel: 0429 363 745 E-mail: wayne@smithengineering.com.au Web: www.smithengineering.com.au

Smithi Engineering
Australian Supplier of Giggiepin Products