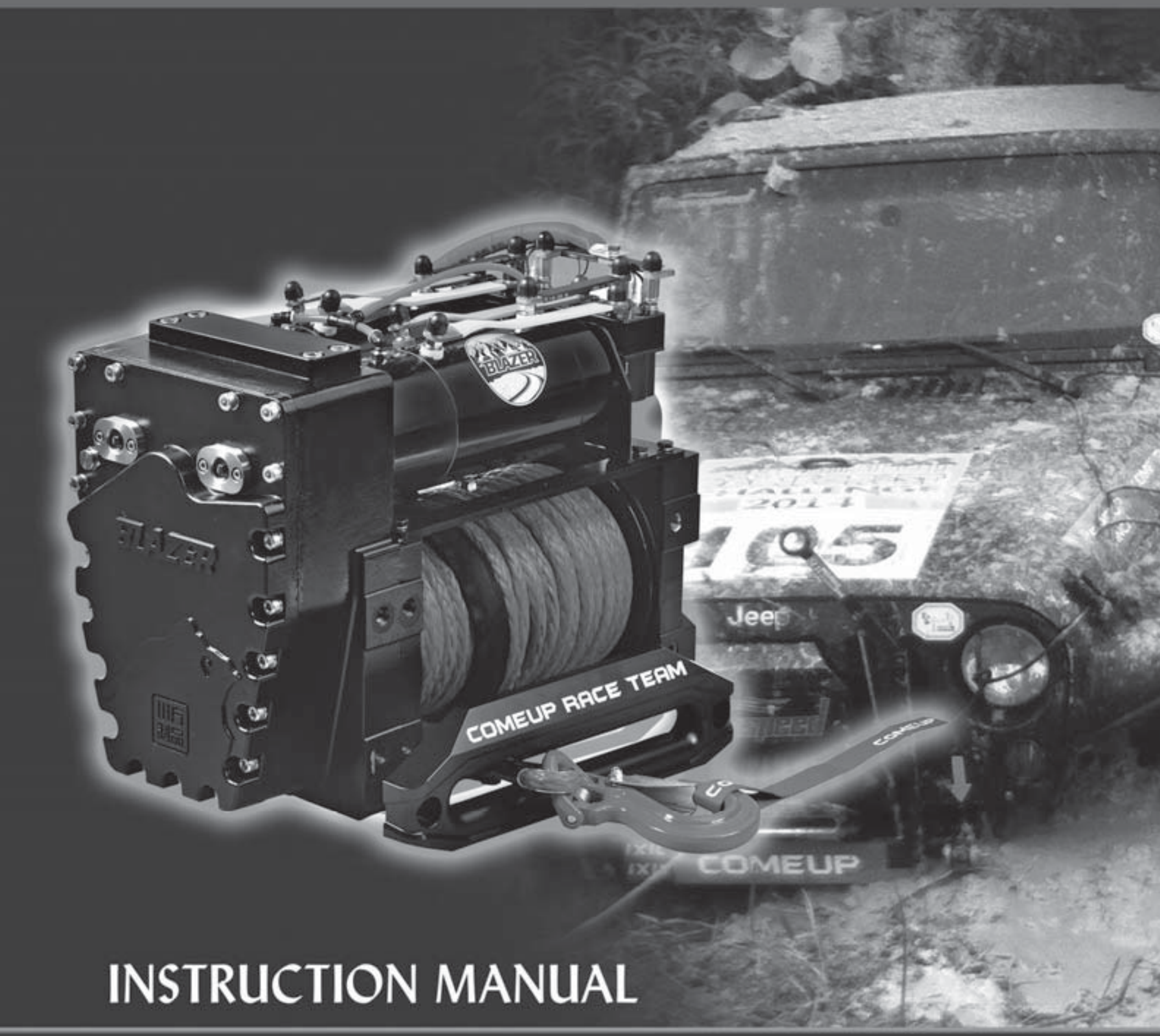
COMEUP WINCH

Competition Winch



INSTRUCTION MANUAL

1975 Since

certified by TÜV NORD according to ISO 9001:2008

CE

COMEUP WINCH

Competition Winch

I. Introduction

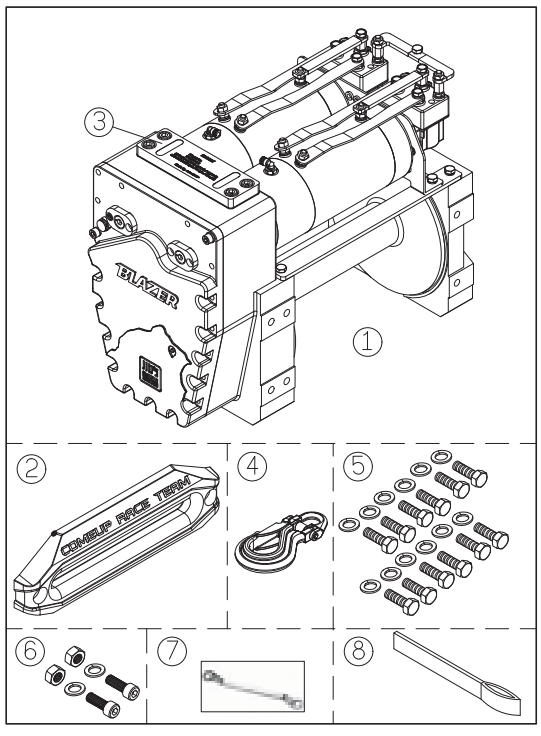
The Blazer M2/M3 Competition Winch is designed and built for extreme performance and reliability in different off-roading events. Blazer M2/M3 features a patented motor connecting mechanism that allows external motor(s) be added to increase dynamic power.

The Blazer competition winch is available in two motor (M2) and three motor (M3) versions; additionally, there are three different gear ratio sets allowing you to choose the best combination of line speed and capacity to use in a specific competition.

Another breakthrough of Blazer M2/M3 is the brake system. Blazer M2/M3 is equipped with dual braking systems: a mechanical ratchet brake in the gear box cover and air actuated brakes at each motor. Blazer M2/M3 uses a patented Air Brake Release Mechanism. This system allows the team to disable the air brake when there is any malfunction of the air system during competition, yet still have mechanical brake to safely continue the event.

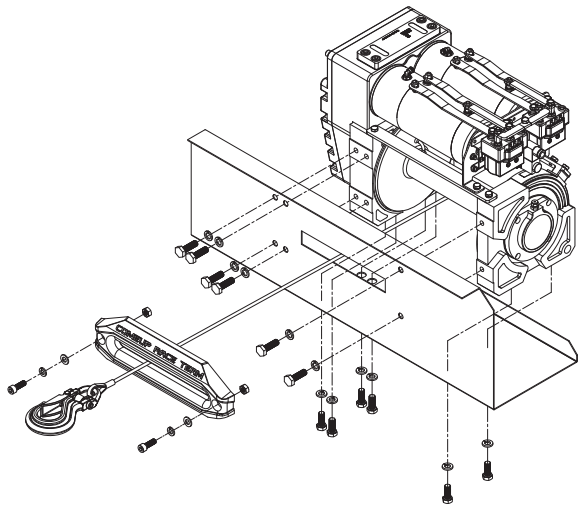
▶ What's in the wooden case:

1. Blazer M2/M3 built to your specification.
2. Hawse Fairlead
3. Your Blazer M2/M3 Name Plate
4. Hook
5. Hardware for mounting the Blazer M2/M3
6. Hardware for mounting the hawse fairlead
7. 8mm wrench for air brake clutch adjustment.
8. Hand strap
9. Instruction Manual
10. Mounting bolt pattern template



▶ How to mount the Blazer M2/M3

1. Mounting the Winch
   (1) It is very important that the winch is installed on a flat and solid mounting surface in order to make sure the motor, drum and gearbox housing are aligned correctly.
   (2) Twelve (12) M12 x 1.75 pitch 12.9 grade with 137 N-m torque settings (maximum) high tensile steel bolts must be used in order to sustain the loads imposed on the winch mounting.



2 Fitting the Hawse Fairlead

(1) Hawse fairlead does not mount to the winch directly.

(2) The synthetic rope shall be wound in an under-wound orientation only.

(3) Two (2) M10 x 1.5 pitch 8.8 grade with 44 N-m torque settings high tensile steel bolts must be used for fastening the hawse fairlead into the mounting channel.

II. Application Information

▶ Rope

1.Blazer M2/M3 is designed to be operated using synthetic winch ropes (we do not recommend the use of steel cables with this winch).

2.Blazer M2/M3 winch is designed to be used in the upright position and the rope should be installed from under the drum. This is referred to as “Under wound”.

3.Blazer M2/M3 comes with 11mm x 46M synthetic rope as standard accessories.

Once the synthetic rope needs to be replaced, please follow the procedures below:

1. Synthetic Rope Replacement.

(1) Disengage the winch clutch, remove existing rope and replace the hawse fairlead if necessary.

(2) Guide the new rope through the collar (Fig. 1) and tie a knot leaving a 20-25 cm (8-10 in.) tail (Fig. 2 and 3).

(3) Cut the lateral side of the end by 45° and apply 3 wraps of electrical tape to hold cut strands in place (Fig. 4).

(4) Tighten and wrap the synthetic rope around the drum (Fig. 5).

(5) A minimum of ten (10) wraps of synthetic rope around the drum is necessary to support the rated load (Fig. 6).

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		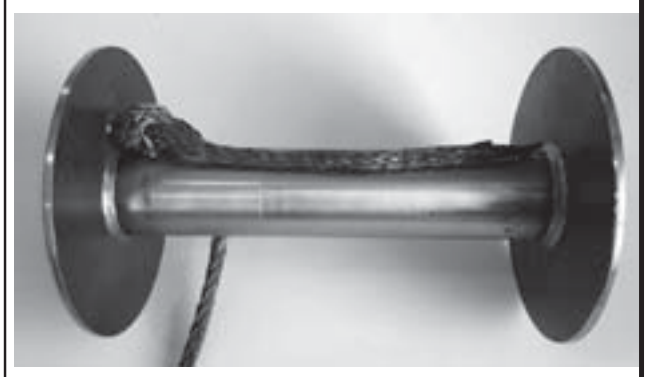
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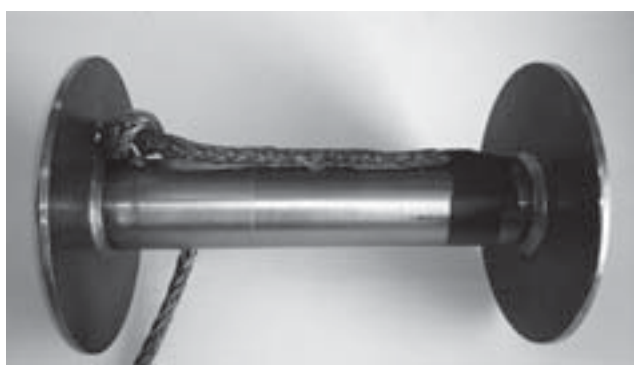
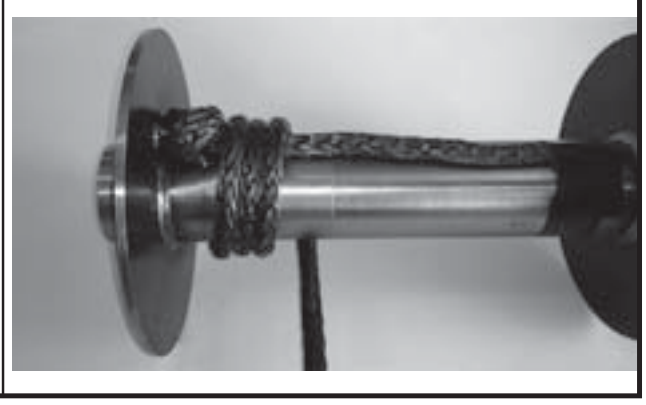
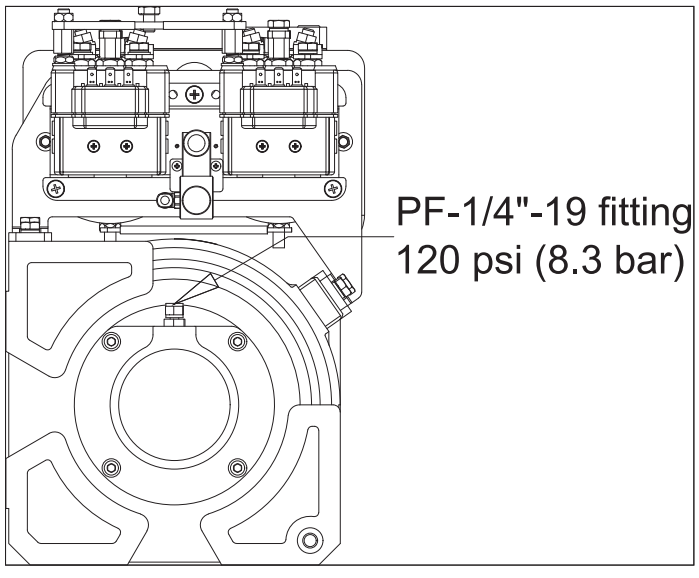
		

2. Tips for Rope care and use.
   (1) Periodically check the rope for damage or wear.
   (2) Abrasion can damage or weaken your synthetic rope, protect your rope from rubbing against sharp objects or edges.
   (3) An aluminum hawse fairlead is required (provided by factory) since it has no sharp edges and resists damage better than a roller fairlead.
   (4) Your synthetic rope clean and dry. To clean it after exposure to sand and mud, spool out the rope, rinse it with clean water, and let it dry completely before re-spooling.

▶ Clutch Function

Blazer M2/M3 is fitted with an air clutch mechanism to allow driver control of the rope free spool. The free spool function allows fast removal of the rope from the winch without having to engage the motors. Some notes please follow when doing the free spool:

1.Connect air source to the PF-1/4”-19 fitting (see figure below.) The required air pressure to disengage air clutch is 120psi (8.3 bar)
Once air pressure is applied to disengage the clutch, the drum is allowed to free spool.
2.Do not disengage the drum when winch is under load.
3.Release the air pressure to engage the drum. Do not attempt to pull a load until the air clutch in the “Engaged” position.
4.Wear leather gloves and use a strap when guiding the synthetic rope on and off the drum.



▶ Operating the Blazer M2/M3

Please read carefully before operating the winch

1.Blazer M2/M3 is a very powerful high-speed winch designed for competition use and it is necessary that only experienced competitors operate the winch. Treat the Blazer racing winch with extreme care and observe all cautions and warnings.
2.The winch capacity is rated at the first layer of synthetic rope on the drum for intermittent-periodic duty.
3.The winch is not to be used to lift, support or otherwise transport personnel.
4.A minimum of ten (10) wraps of rope around the drum is necessary to support the rated load.
5.Keep clear of winch, rope, hook, and fairlead while operating.
6.Synthetic rope can break without warning. Always keep a safe distance from the winch and rope while under a load.

7. Retain tension on the synthetic rope before winching. A sudden winching load can result in broken synthetic rope as well as damage to the drum.
8. Failure to adequately align, support, or attach winch to a suitable mounting base could result in a loss of efficiency of performance or damage the winch, rope and mounting channel.
9. The Warranty will be invalid if the operating voltage is higher than 14.5V.

▶ Electrical

1. Setup

Blazer M2/M3 comes prewired and ready to use. You only need to connect the power and ground cables to the battery and connect the control wiring properly.
(Please refer to the wiring diagram in this manual)

To maintain efficient and adequate power supply required to cope with the demands the Blazer M2/M3 will place on it the vehicle electrical system please consider the following:

(1) The main ground connection for the winch motors must go to the batteries and not to the frame of the vehicle.
(2) The ground connections for the air solenoid must not come from the winch motor ground connection.
(3) The positive switching for the air solenoid must be from a battery not used for the winch.
(4) The recommended battery capacity shall be at least 950 CCA.

▶ Lubrication

Lubricating oil is an essential part for the winch. All moving parts in the winch are lubricated at the time of assembly, so it is unnecessary to add lubricating oil when using the winch first time. The lubricating oil needs to be replaced only after total 5 operating hours or the gear box been taken apart for maintenance.
Suggested grease: Shell GADUS S2 V220 0 lubricating
Viscosity (cSt): 220 mm2 / s at 40°C; 19 mm2 /s at 100°C
Amount: 1200cc

▶ Dual Brake system: (Air Brake and Mechanical Brake)

1. Dual Brakes

The new Blazer M2/M3 is equipped with dual braking systems: a mechanical ratchet brake and air actuated motor brake systems. Both brake systems can offer sufficient brake force under no load and full load circumstances.

The motor brake system requires minimum 120psi (8.3 bar) air pressure to operate. Please ensure that this system is connected to an adequate air supply. The patented Blazer M2/M3 air brake system can easily be overridden if there is a loss of air supply in competition or the vehicle does not have on board air.

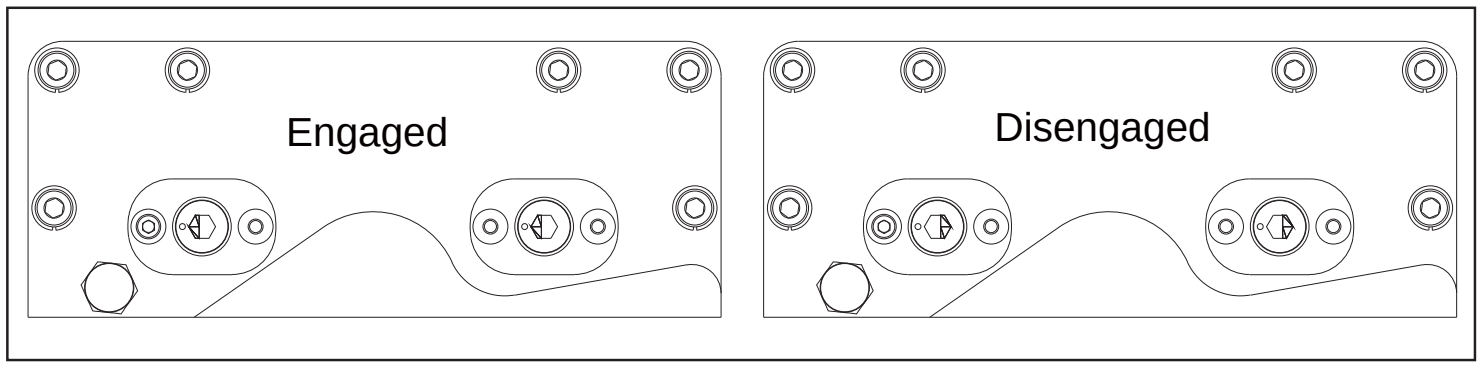
2. Durable Mechanical brake

The mechanical ratchet brake inside the gear box cover can safely hold the full winch capacity load in the event that the air actuated motor brakes are overridden.

3. Disengage/ Engage air brake clutch (patented)

To disengage air brake clutch: use an 8mm allen wrench (provided with Blazer M2/M3) turn clutch nut clockwise 180° To engage air brake clutch: turn the clutch nut counter-clockwise 180° back to original position.

(Please refer to the figure below)



Warning:

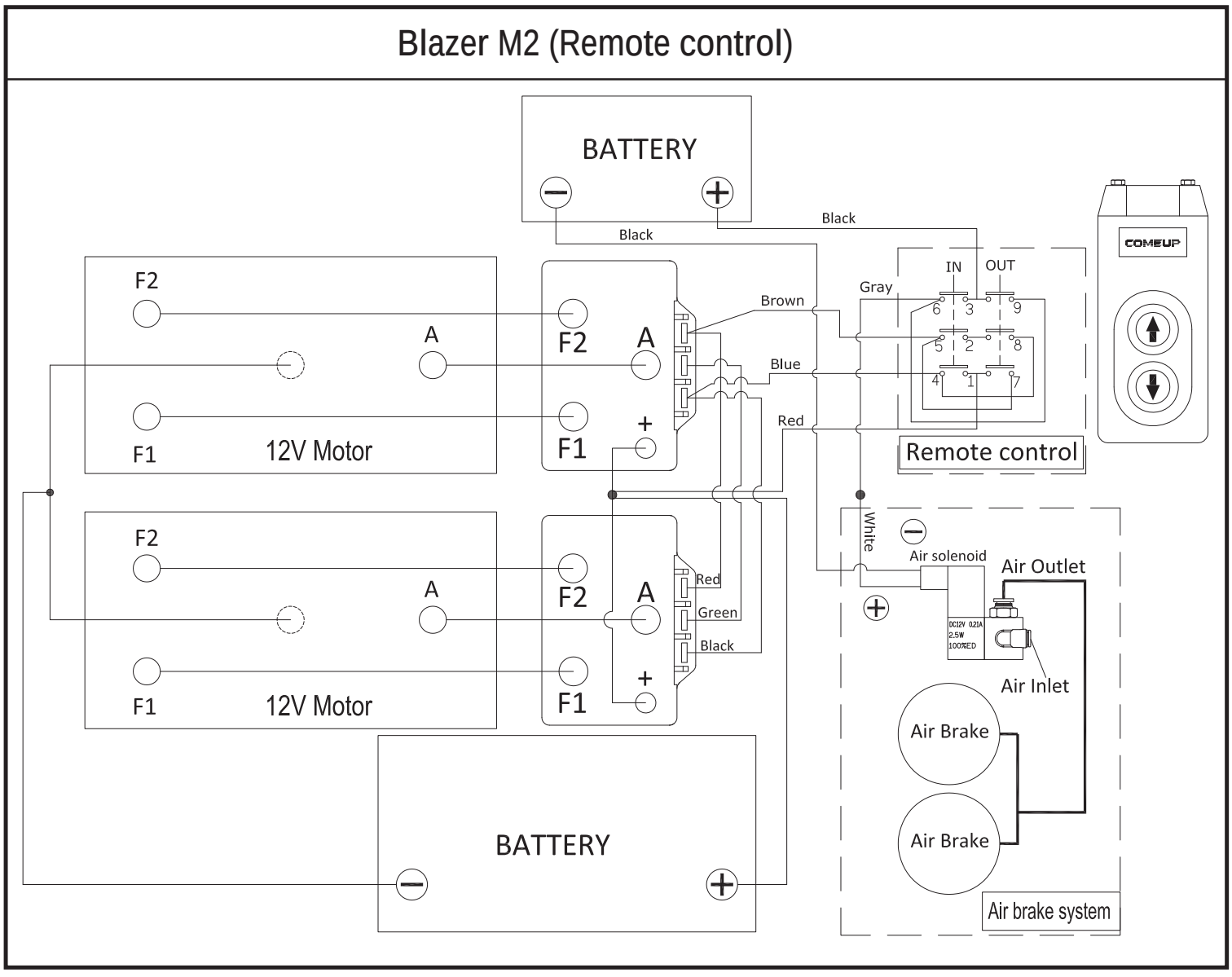
Before operation both air brake clutches of Blazer M2 need to be in the same engaged or disengaged state.

Before operation all three air brake clutches of Blazer M3 need to be in the same engaged or disengaged state

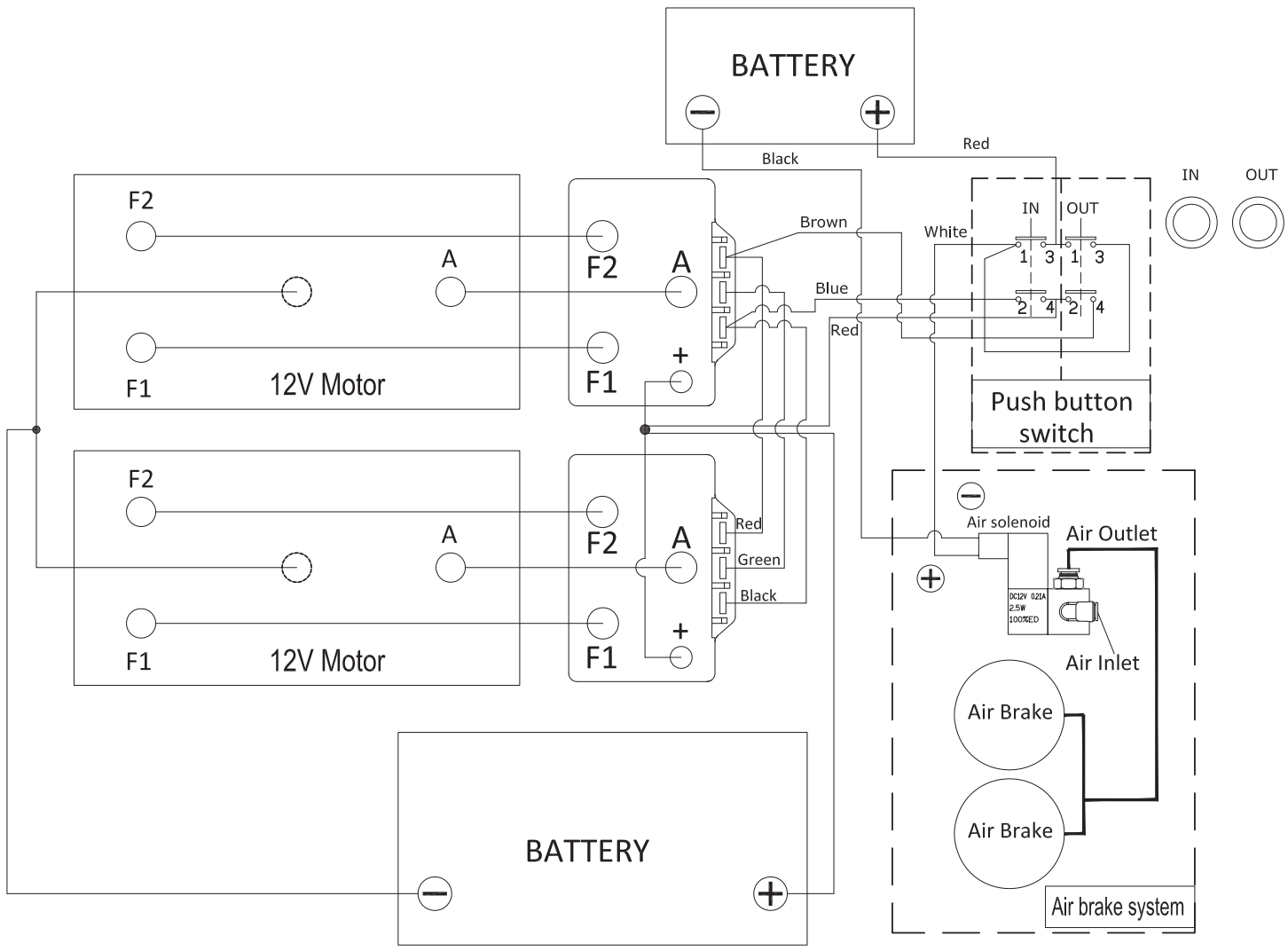
III. Technical Data & Technical Support

▶ Technical Data:

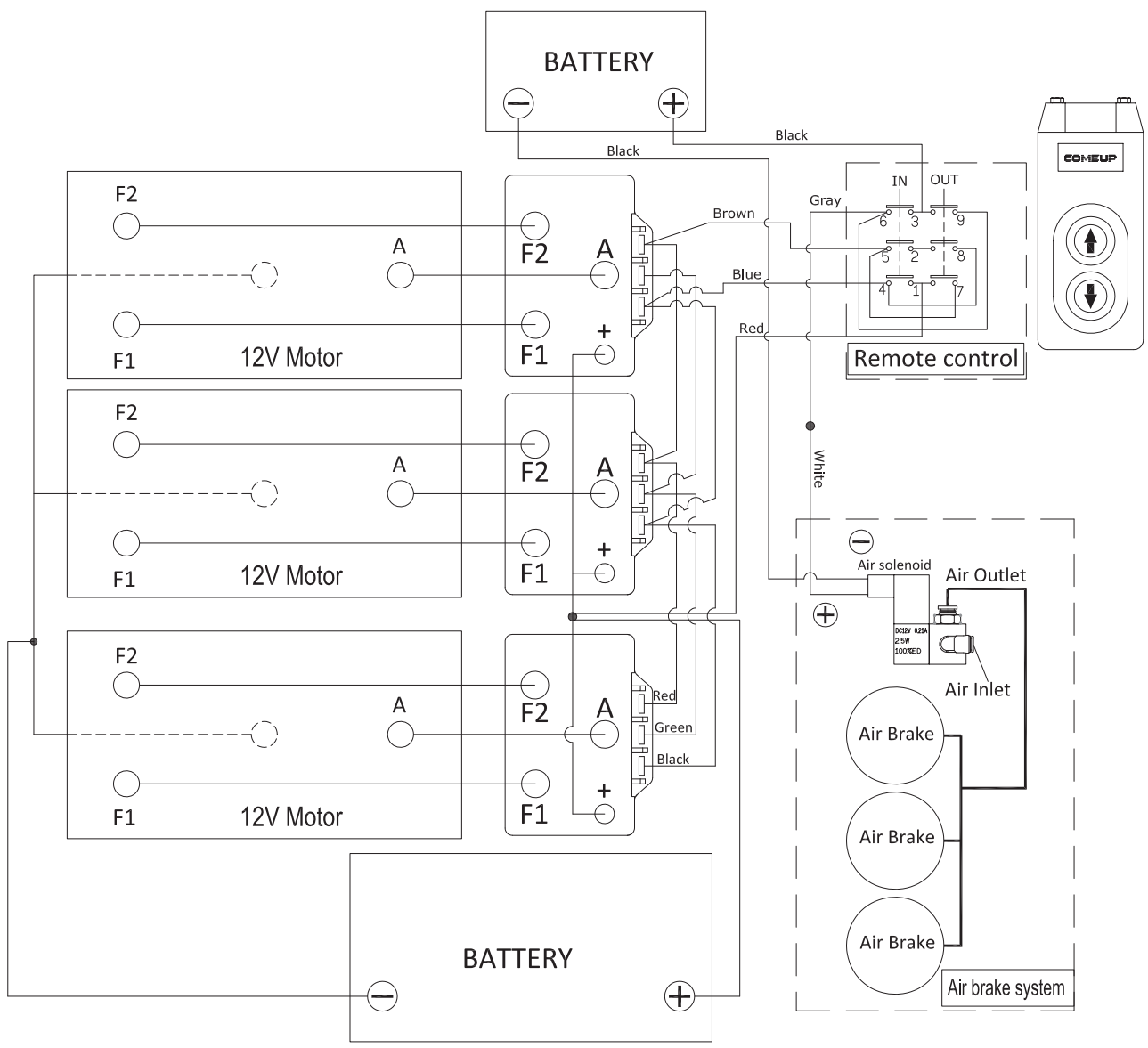
1. Wiring Diagram



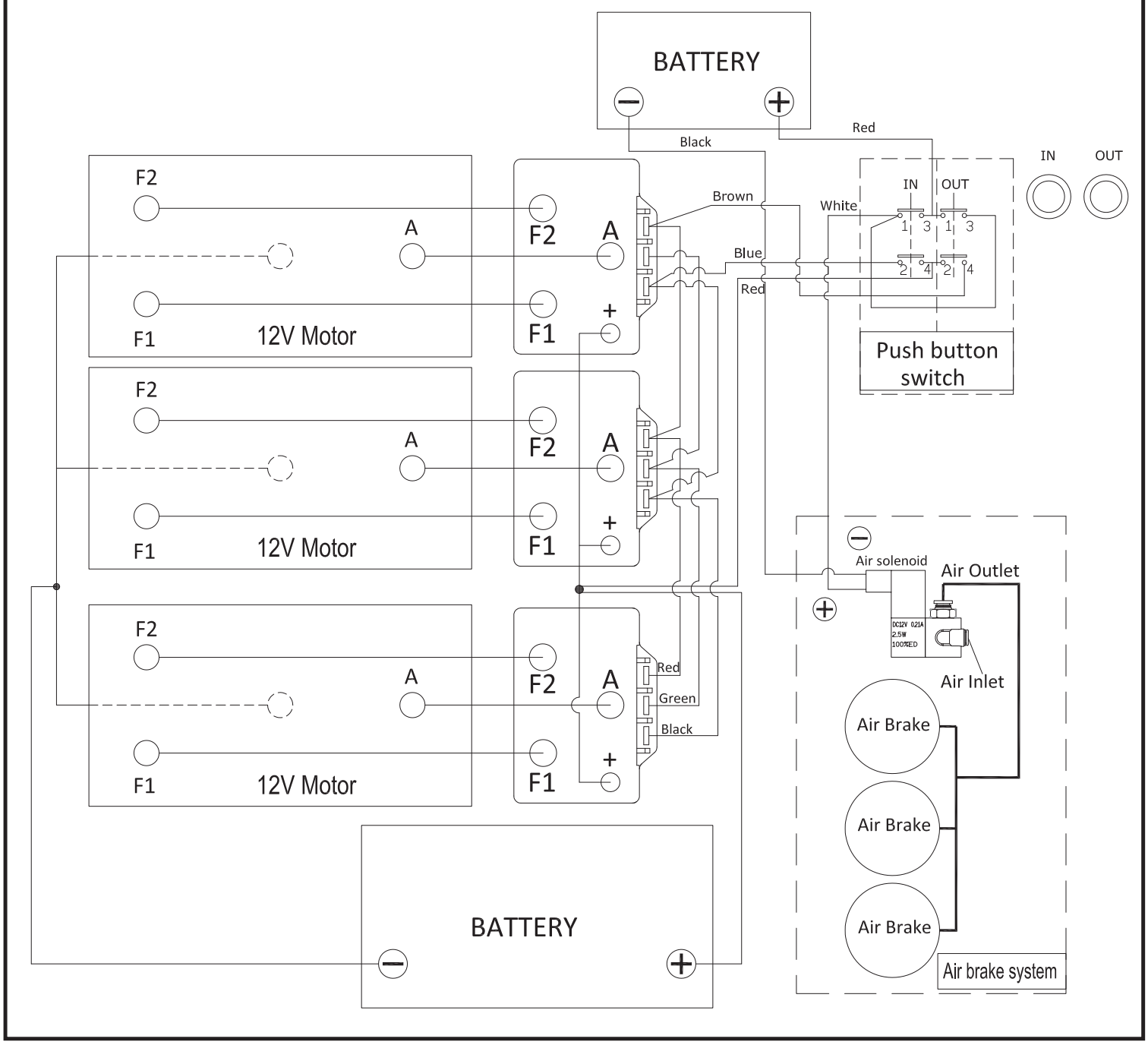
Blazer M2 (Push button switch)



Blazer M3 (Remote control)



Blazer M3 (Push button switch)



The winch is supplied with twin/triple 8.0 hp series wound motors and twin/triple contactor kits each, please follow the following wiring guidelines.

(1) Use 2/0 AWG (America Wire Gauge for 67-75 mm2 in area) lead (red) from the contactors kits to the positive (+) battery terminal.

(2) Use 2/0 AWG (America Wire Gauge for 67-75 mm2 in area) lead (black) from the grounding terminal of the motor to the negative (-) battery terminal.

(3) Use thick copper busbar of F-1, F-2 and A of the motors to the contactors.

(4) Link red wire of twin contactor in parallel for “Cable Out” operation.

(5) Link black wire of twin contactor in parallel for “Cable In” operation.

(6) Link green wire of twin contactor in parallel for grounding.

(7) The recommended battery shall be 950 CCA minimum.

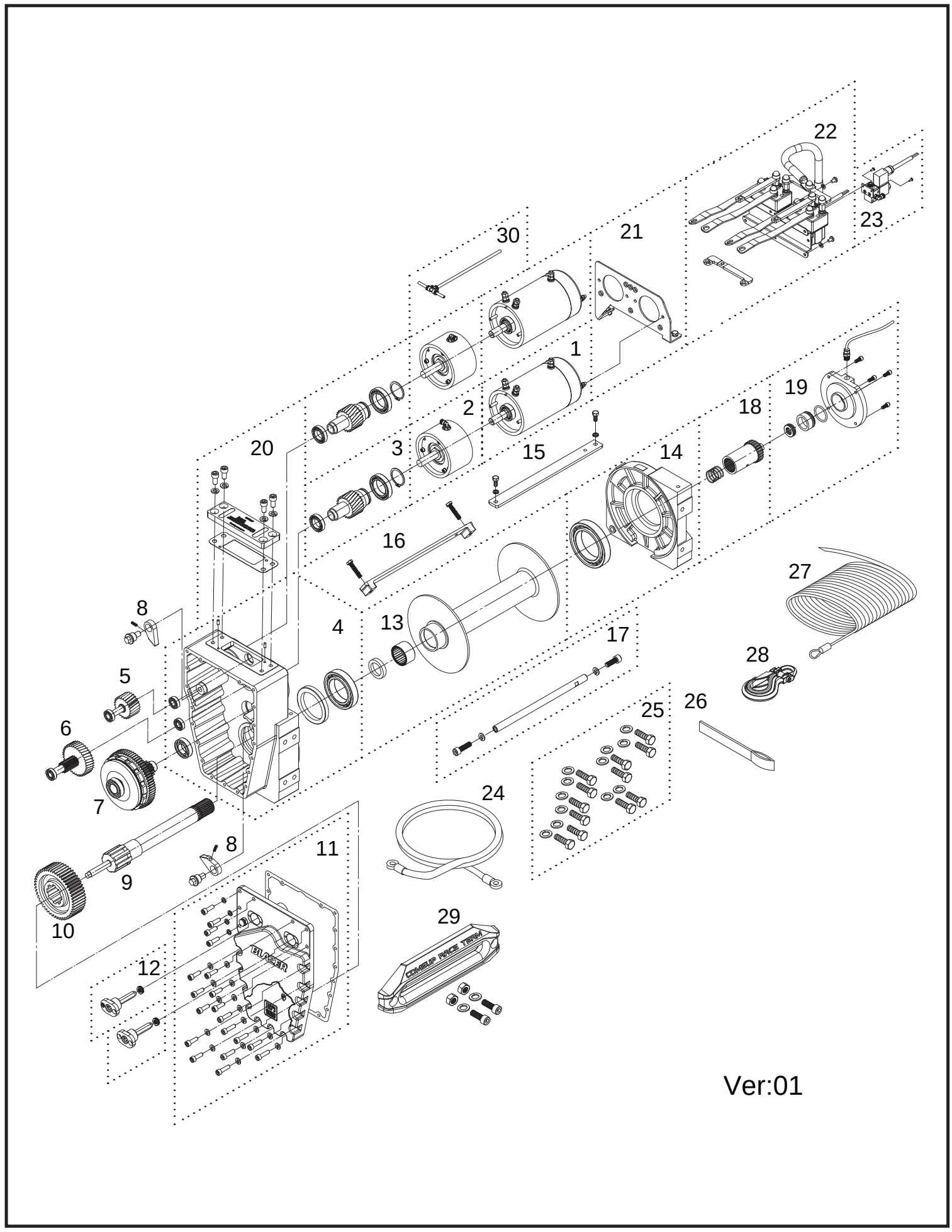
(8) Recommend the use of a 100 amp 12V plus alternator.

(9) Ensure air compressor is on and the winch has air pressure to it.

(10) Air hose diameter for air clutch and air solenoid is 6mm.

2. Exploded-view drawing

Blazer M2



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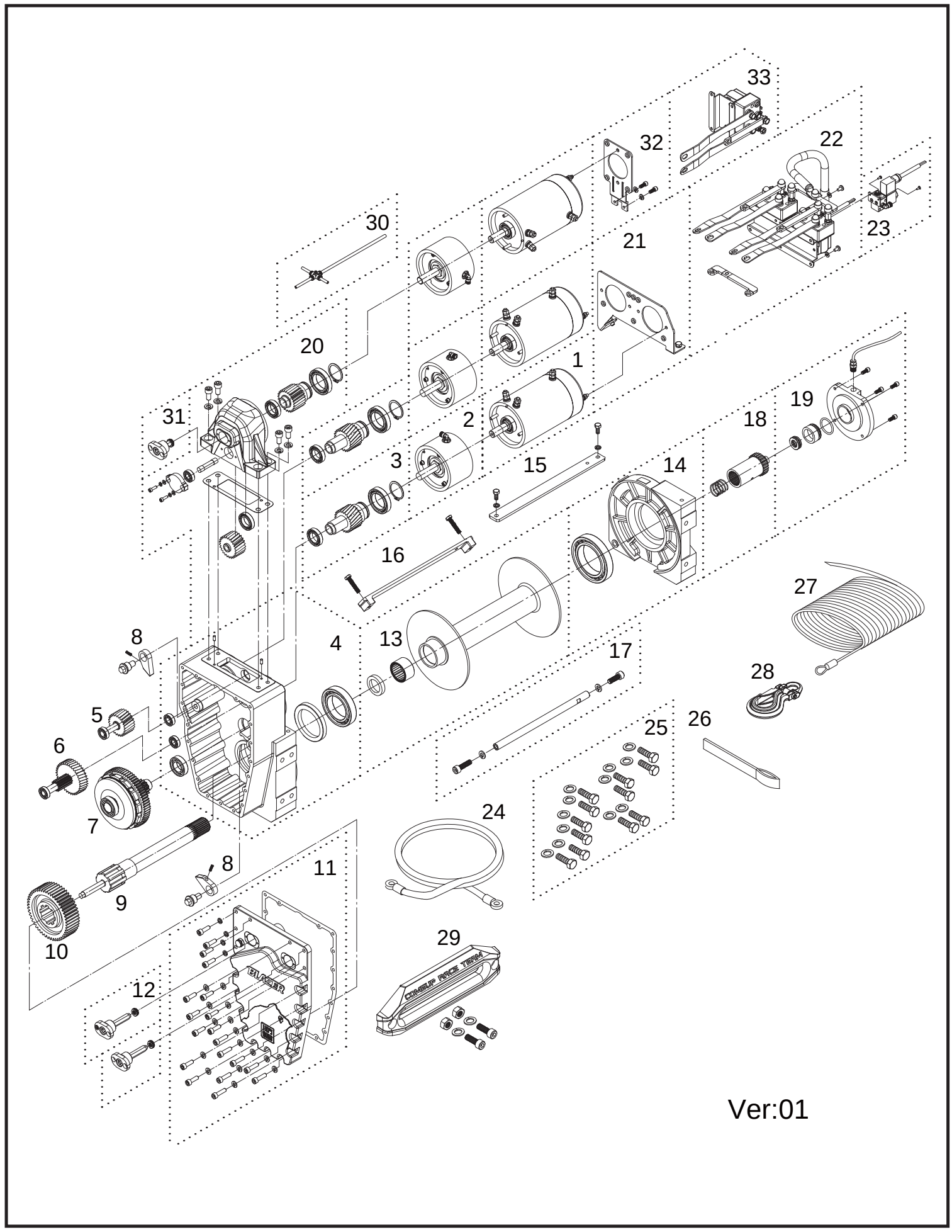
Item No.	Description	Part No.	Qty
1	Motor 12V	883790	2
2	Air brake kit	883791	2
3	1st shaft kit	883919	2
4	Gearbox support rack kit	883792	1
5	Transmission gear set	883920	1
6	1st gear kit A (for 41.5:1)	883793	1
	1st gear kit B (for 33.6:1)	883794	1
	1st gear kit C (for 28:1)	883795	1
7	2nd gear kit A (for 41.5:1)	883796	1
	2nd gear kit B (for 33.6:1)	883797	1
	2nd gear kit C (for 28:1)	883798	1
8	Ratchet stopper kit	883799	2
9	Transmitter shaft	883803	1
	Transmitter shaft (for long drum)	883913	1
10	3rd gear kit	883800	1
11	Cover kit	883801	1
12	Air brake clutch kit A	883802	2
13	Drum kit	883804	1
	Drum kit(for long drum)	883805	1
14	Gearbox support rack kit	883806	1
15	Tie bar kit	883807	1
	Tie bar kit(for long drum)	883808	1
16	Tie bar kit A	883809	1
	Tie bar kit A(for long drum)	883810	1
17	Tie bar kit	883811	1
	Tie bar kit(for long drum)	883812	1
18	Clutch socket kit	882708	1
19	Air inlet cover kit	882712	1
20	Up cover kit	883813	1
21	Motor bracket kit	883815	1
22	Control pack 12V	883816	1
23	Air freespool control	883817	1
24	Grounding lead	882720	1
25	Mounting hardware	883818	1
26	Handsaver strap	880026	1
27	Synthetic rope	883240	1
28	Sling hook	882477	1
29	Hawse fairlead	883187	1
30	Pneumatic component kit	883911	1

Blazer M3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Item No.	Description	Part No.	Qty
1	Motor 12V	883790	2
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4	Gearbox support rack kit	883792	1
5	Transmission gear set	883920	1
6	1st gear kit A (for 41.5:1)	883793	1
	1st gear kit B (for 33.6:1)	883794	1
	1st gear kit C (for 28:1)	883795	1
7	2nd gear kit A (for 41.5:1)	883796	1
	2nd gear kit B (for 33.6:1)	883797	1
	2nd gear kit C (for 28:1)	883798	1
8	Ratchet stopper kit	883799	2
9	Transmitter shaft	883803	1
	Transmitter shaft (for long drum)	883913	1
10	3rd gear kit	883800	1
11	Cover kit	883801	1
12	Air brake clutch kit A	883802	2
13	Drum kit	883804	1
	Drum kit(for long drum)	883805	1
14	Gearbox support rack kit	883806	1
15	Tie bar kit	883807	1
	Tie bar kit(for long drum)	883808	1
16	Tie bar kit A	883809	1
	Tie bar kit A(for long drum)	883810	1
17	Tie bar kit	883811	1
	Tie bar kit(for long drum)	883812	1
18	Clutch socket kit	882708	1
19	Air inlet cover kit	882712	1
20	Up cover kit	883813	1
21	Motor bracket kit	883815	1
22	Control pack 12V	883816	1
23	Air freespool control	883817	1
24	Grounding lead	882720	1
25	Mounting hardware	883818	1
26	Handsaver strap	880026	1
27	Synthetic rope	883240	1
28	Sling hook	882477	1
29	Hawse fairlead	883187	1
30	Pneumatic component kit	883911	1
31	Air brake clutch kit B	883819	1
32	M3 motor bracket kit	883820	1
33	Control pack (M3) 12V	883821	1

▶ Technical Support:

1. Changing gear ratio kit

Step 1. Remove Air inlet cover kit by removing M6 x 16L bolts x 4pcs (h)

Step 2. Remove M5 x 16L bolts x 4pcs (a)

Step 3. Remove air brake clutch kit (b)

Step 4. Remove M8 x 30L bolts x 19pcs (c)

Step 5. Remove Blazer cover kit (d)

Step 6. Remove two ratchet stopper kits with springs (e)

Step 7. Remove 2nd gear kit (f)

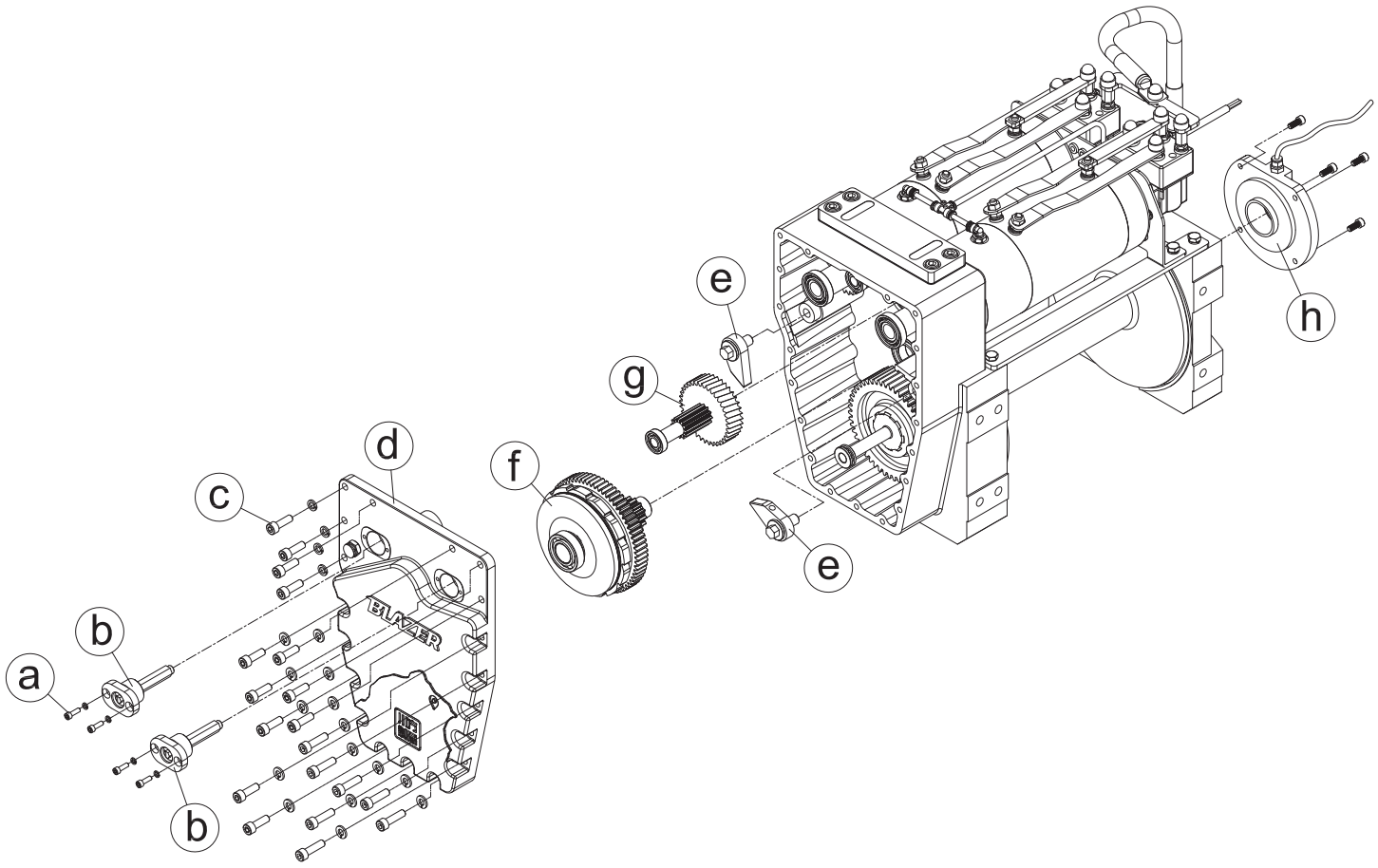
Step 8. Remove 1st gear kit (g), and clean out the excess lubricating grease

Step 9. Replace new gear ratio kit by assembling orders (g)⊠(f)⊠(e), and apply Shell GADUS S2 V220 0 lubricating grease 600c.c.

Step 10. Re-assemble Blazer by orders (d)⊠(c)⊠(b)⊠(a)⊠(h)

Caution:

When assembling air brake clutch (b), the clutch shaft mark need to be aligned with clutch engaged mark and point to nine o'clock



2. Upgrade Blazer M2 to Blazer M3

Step 1. Adding M3 motor kit to make Blazer M2 into Blazer M3

Step 2. Assemble motor support rack kit with air brake kit (a) and motor kit (b), then remove hex Nuts and washers from the motor terminals (keep the nuts and washers for Step 5). Figure (B)

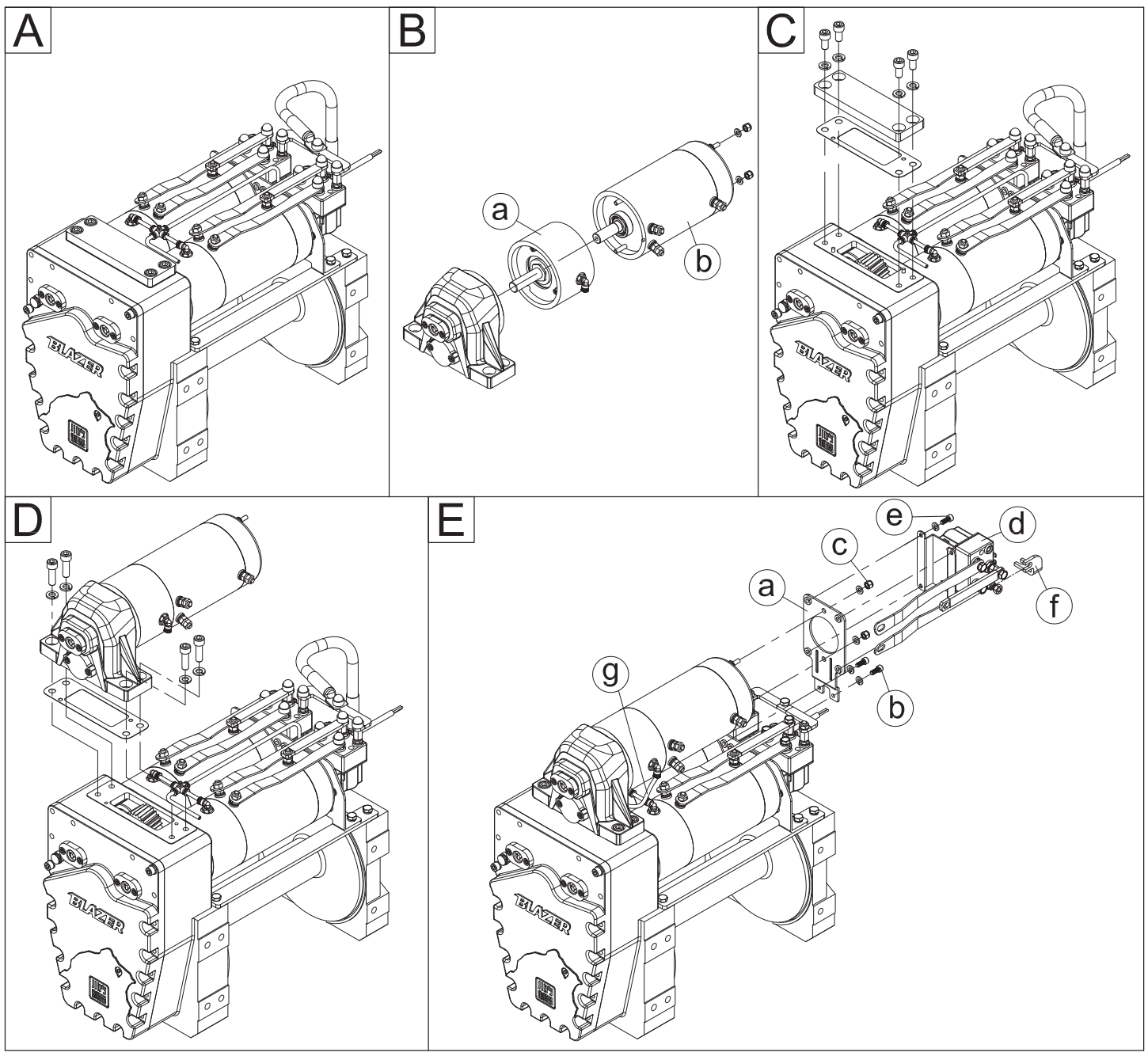
Step 3. Remove M10 x 20L screw x 4pcs, and remove cover kit. Figure(C)

Step 4. Assemble M3 motor kit (Figure B) with Blazer M2, and fasten with M10 x 30L screw x 4pcs. Figure (D)

Step 5. Install M3 motor bracket kit (a) by fastening with M6 x 15L screw x 2pcs (b), and re-assemble the terminal hex nuts and washer removed from motor(c). Then install M3 control pack (d) by fastening with M6 x 12L screw x 4pcs with spring washer (e). Figure (E)

Step 6. Install power panel (f) to connect M2 and M3 control pack (+Ve). Figure (E)

Step 7. Connect air hose from pneumatic component kit (g) to the air brake of M3 motor kit. Figure (E)



For more detailed technical support, please contact Comeup Industries Inc:
info@comeup.com.tw

VII. Maintenance Schedule

- Ensure that a responsible person carries out all inspections as per schedule.
- Inspections are dived into Daily, Monthly and Quarterly.

Classification of check			Item		Checking method	Checking reference
Daily	Periodical					
	Monthly	Quarterly				
○			Installation	Loosening and center run-out of	Checking of installing bolts	Existence of abnormalities
○			Remote control	Working	Manual	Reasonable actuation
		○		Wearing in contact points	Visual	Free of wear or damage
○			Synthetic rope	Broken strands	Visual, measuring	Two or more adjacent strands are cut
○	○			Decrease in rope diameter	Visual, measuring	25% of nominal diameter max
○				Fused or melted fibers	Visual	Existence of abnormalities
○				Fastening condition of end	Visual	Existence of abnormalities
		○	Clutch	Working	Cycle through engaged/disengaged state	To be free from remarkable wear and damage
		○	Motor	Staining, damage	Decomposition checking	Existence of abnormalities
		○	Mechanical Brake	Wearing of brake disc	Decomposition checking	To be free from remarkable wear and damage
○				Performance	Visual	Reasonable actuation
		○	Air Brake	Wearing of brake disc	Decomposition checking	To be free from remarkable wear and damage
○				Performance	Visual	Normal
○				Clutch	Visual	2 or 3 sets are engaged
		○	Gear	Damage, wearing	Decomposition checking	To be free from remarkable wear and damage
○	○			Low oil level	Visual	Replenish oil

V. Warranty

COMEUP WINCH

Competition Winch

Limited life time Warranty for Mechanical Components
Limited One (1) Year Warranty for Electrical Components

WARRANTY

Comeup Industries Inc. (COMEUP) warrants to the original purchaser that the mechanical components and electrical components of the Comeup Blazer will be free of defects in material and workmanship for one (1) year. All Comeup mounting kits and other accessories carry one (1) year limited warranty against defects in material workmanship.

This warranty applies only to the original purchaser of the winch. To obtain any warranty service, the purchaser under this Limited Warranty is requested to advise COMEUP or its authorized distributors on any claim. The purchaser must provide a copy of the purchase receipt bearing the winch serial number, date of purchase, owners name, email or Tel & Fax, address and purchaser vehicle details. Any products that COMEUP determines to be defective will be repaired or replaced or refunded at COMEUP's sole discretion without charge to buyer upon buyer's compliance with these procedures. In the event of repair or replacement, purchaser must send the defective winch or part, with freight prepaid, to COMEUP or its authorized distributor. COMEUP will send the serviced product back to purchaser at COMEUP's expense. This warranty does not cover the removal or reinstallation of the winch.

COMEUP takes the responsibility for COMEUP winch parts and components to be free from defects in materials and workmanship, but the following portions are hereby excluded and disclaimed. COMEUP or its authorized distributors may make reasonable charges for parts and labour for repairs or resumption in the following portions not covered by this limited warranty.

(1). All warranties of wire rope and synthetic rope assemblies after initial use
(2). All warranties of fitness for a particular purpose
(3). All warranties of the product's finish
(4). All warranties of merchantability

The limited warranty does not cover any failure that results from improper installation/operation, third party part substitution, purchaser's alteration or modification of the COMEUP winch. This warranty is void when COMEUP serial number plate is removed or defaced.

The warranty will be invalid if the operating voltage is higher than 14.5V.

COMEUP's liability to the purchaser under the winch warranty for any loss or damage howsoever and whatsoever arising shall not exceed the price of the initial winch purchase receipt. COMEUP shall not in any event be liable to the purchaser for any consequential and/or indirect loss or damage whether for loss or for profit or otherwise, costs, expenses or other claims for consequential compensation whatsoever and whether caused by negligence of COMEUP employees, distributors and their employees or otherwise. COMEUP reserves the right to change product design without notice. In situations in which COMEUP has changed a product design, COMEUP shall have no obligation to upgrade or otherwise modify previously manufactured products.

NOTES

COMEUP
WINCH

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PN 883909 Ver:01

Specifications subject to change without notice