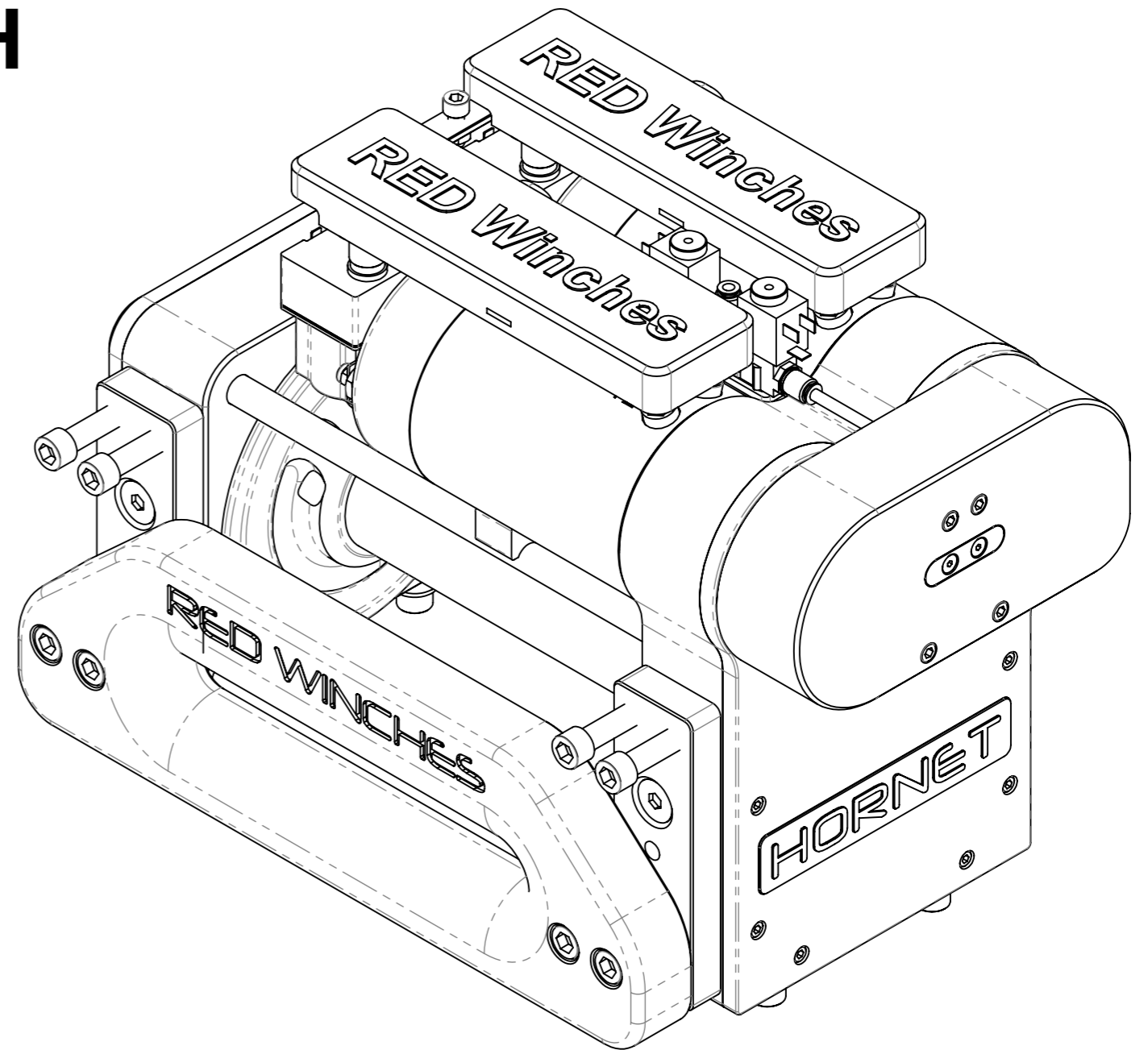




RED Winches

HORNET TWIN MOTOR WINCH WORKSHOP MANUAL WITH DRAWINGS



This winch is part of a group of winches whose designs have undergone extensive testing. The end user can now enjoy a professional highly engineered high performance electric winch capable of operating in the most demanding of situations. The small compact size combined with its pulling power make it an ideal winch for maximum impact when faced with minimal installation space

- SHEET 1: FRONT COVER**
- SHEET 2: DIMENSIONS**
- SHEET 3: MOTORS & BRAKE REMOVE**
- SHEET 4: DRIVE SHAFT AND FREESPOOL**
- SHEET 5: AIR BRAKE ASSEMBLY**
- SHEET 6: MOTOR ASSEMBLY**
- SHEET 7: ELECTRICAL SCHEME**
- SHEET 8: LUBRICATION**
- SHEET 9: INSPECTION SHEET**

RED Winches	www.red-winch.com ULTIMATE PERFORMANCE WINCH		
DRAWING NUMBER: WORKSHOP MANUAL	SCALE: 1:4	REVISION: A	SHT 1 OF 10
<small>Drawing not to be reproduced or distributed in any format or method without specific permission from Redstart/Design.</small>			

WINCH
TYPE

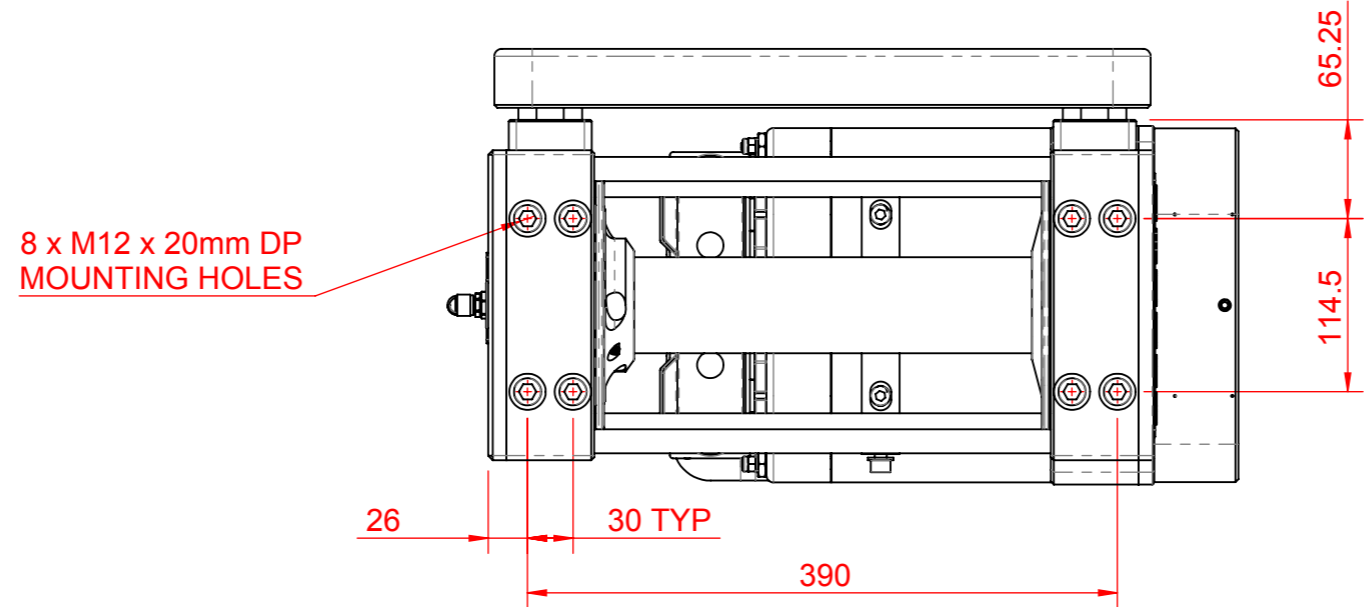
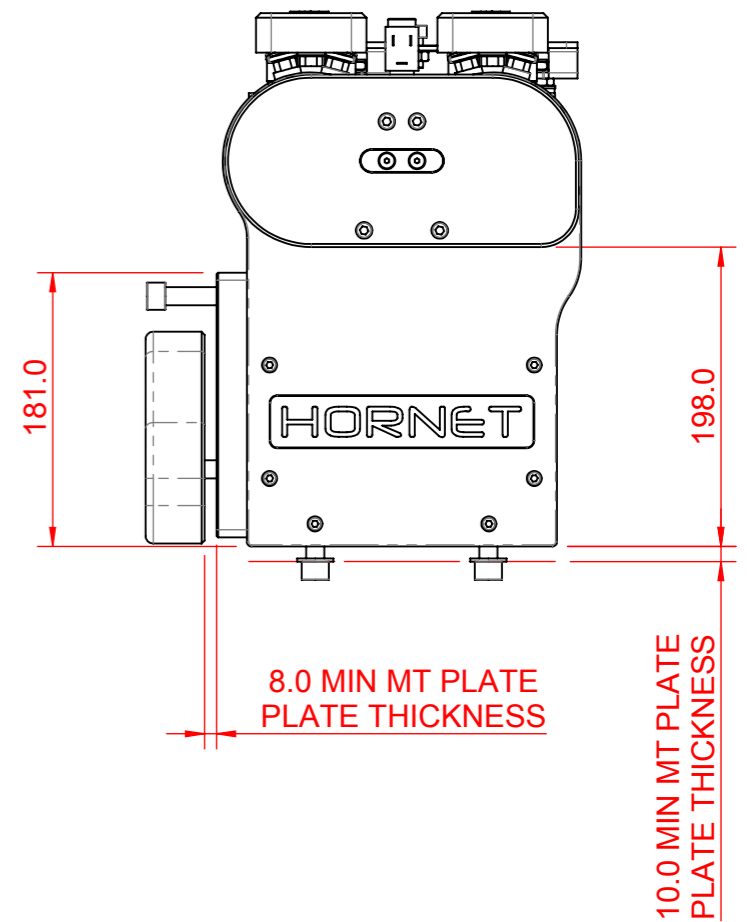
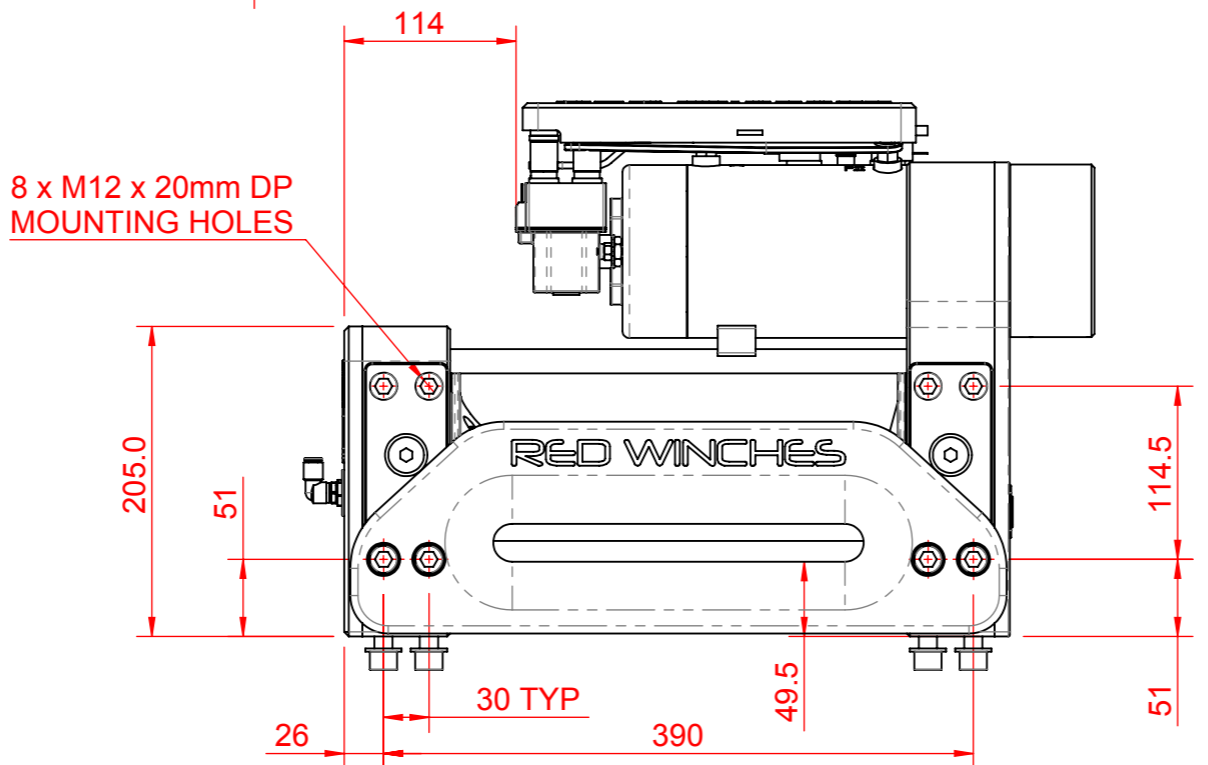
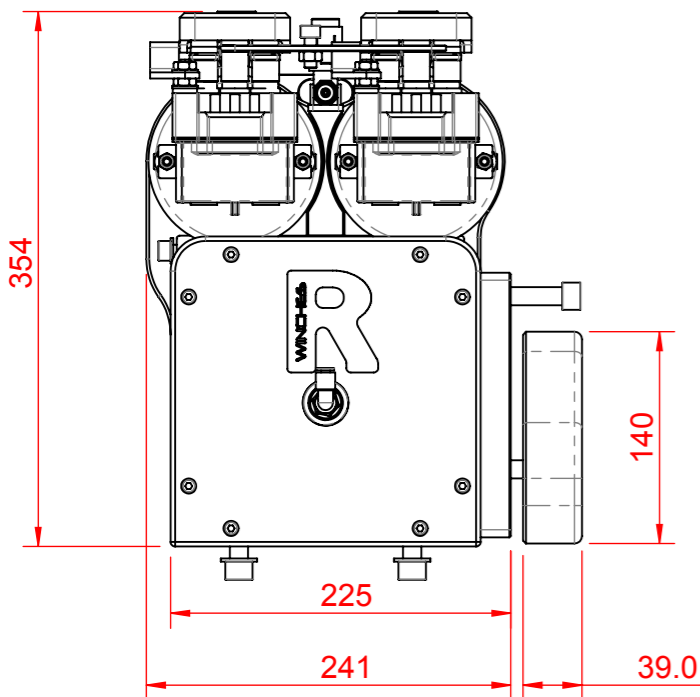
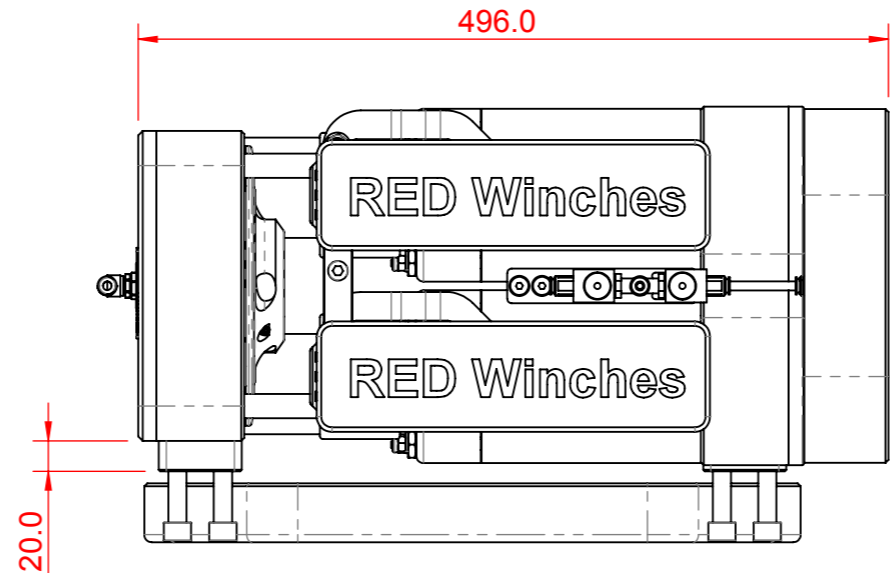
HORNET

WINCH
DESCRIPTION:

**TWIN MOTOR, HIGH SPEED
12V / 24V DC, AIR BRAKE**

Telephone: +44 (0)1460 67744
Email: sales@red-winch.com

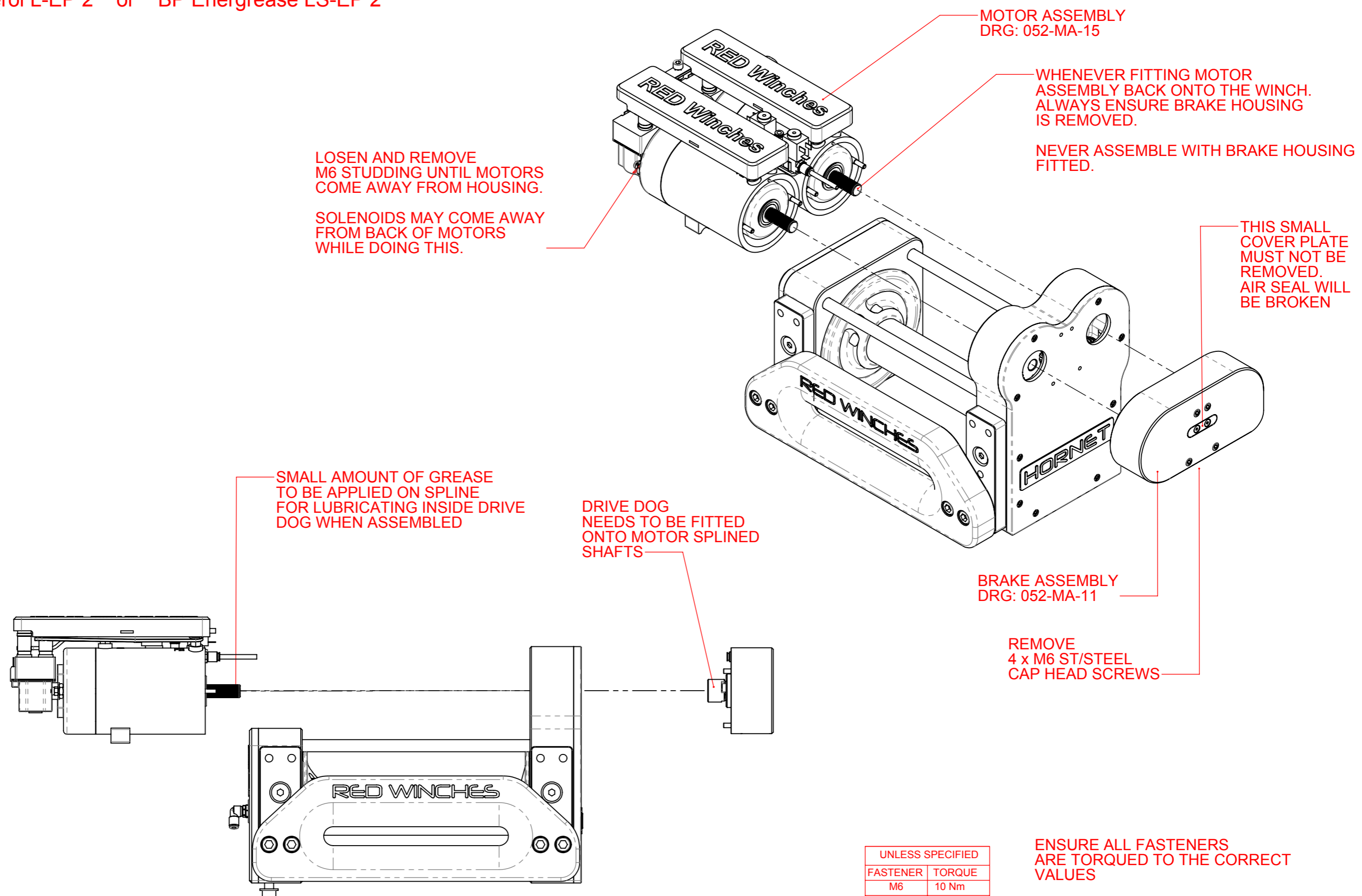
REV.	DATE	DESCRIPTION	SIG
A	05/09/2010	WORKSHOP ISSUE	NJ



UNLESS SPECIFIED	
FASTENER	TORQUE
M6	10 Nm
M8	20 Nm
M10	35 Nm
M12	65 Nm
M16	130 Nm
M20	180 Nm

WARNING:
MOUNTING PLATE THICKNESS IS IMPORTANT IN SAFE, RELIABLE OPERATION OF THE WINCH IF THE THICKNESS IS LESS THAN 8mm IT MAY DAMAGE THE WINCH AND INVALIDATE ANY WARRANTY ON THE WINCH.

Grease Specification:
Castrol Spherol L-EP 2 or BP Energrease LS-EP 2



MOTOR ASSEMBLY
DRG: 052-MA-15

WHENEVER FITTING MOTOR ASSEMBLY BACK ONTO THE WINCH. ALWAYS ENSURE BRAKE HOUSING IS REMOVED.

NEVER ASSEMBLE WITH BRAKE HOUSING FITTED.

THIS SMALL COVER PLATE MUST NOT BE REMOVED. AIR SEAL WILL BE BROKEN

LOSEN AND REMOVE M6 STUDDING UNTIL MOTORS COME AWAY FROM HOUSING.

SOLENOIDS MAY COME AWAY FROM BACK OF MOTORS WHILE DOING THIS.

SMALL AMOUNT OF GREASE TO BE APPLIED ON SPLINE FOR LUBRICATING INSIDE DRIVE DOG WHEN ASSEMBLED

DRIVE DOG NEEDS TO BE FITTED ONTO MOTOR SPLINED SHAFTS

BRAKE ASSEMBLY
DRG: 052-MA-11

REMOVE 4 x M6 ST/STEEL CAP HEAD SCREWS

UNLESS SPECIFIED	
FASTENER	TORQUE
M6	10 Nm
M8	24 Nm
M10	45 Nm
M12	80 Nm
M16	160 Nm
M20	200 Nm

ENSURE ALL FASTENERS ARE TORQUED TO THE CORRECT VALUES

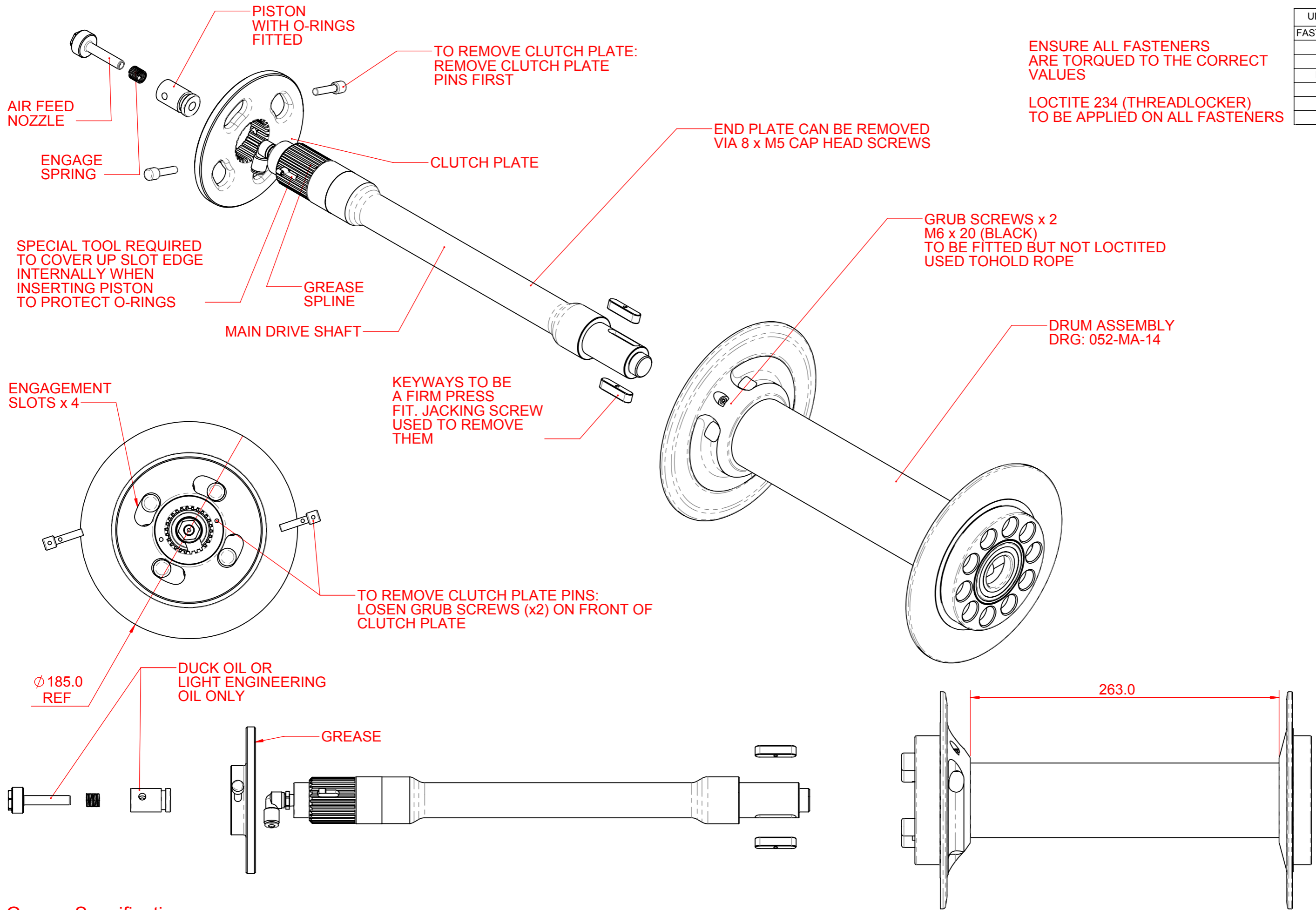
LOCTITE 234 (THREADLOCKER) TO BE APPLIED ON ALL FASTENERS

RED Winches www.red-winch.com
ULTIMATE PERFORMANCE WINCH

UNLESS SPECIFIED	
FASTENER	TORQUE
M6	10 Nm
M8	24 Nm
M10	45 Nm
M12	80 Nm
M16	160 Nm
M20	200 Nm

ENSURE ALL FASTENERS ARE TORQUED TO THE CORRECT VALUES

LOCTITE 234 (THREADLOCKER) TO BE APPLIED ON ALL FASTENERS



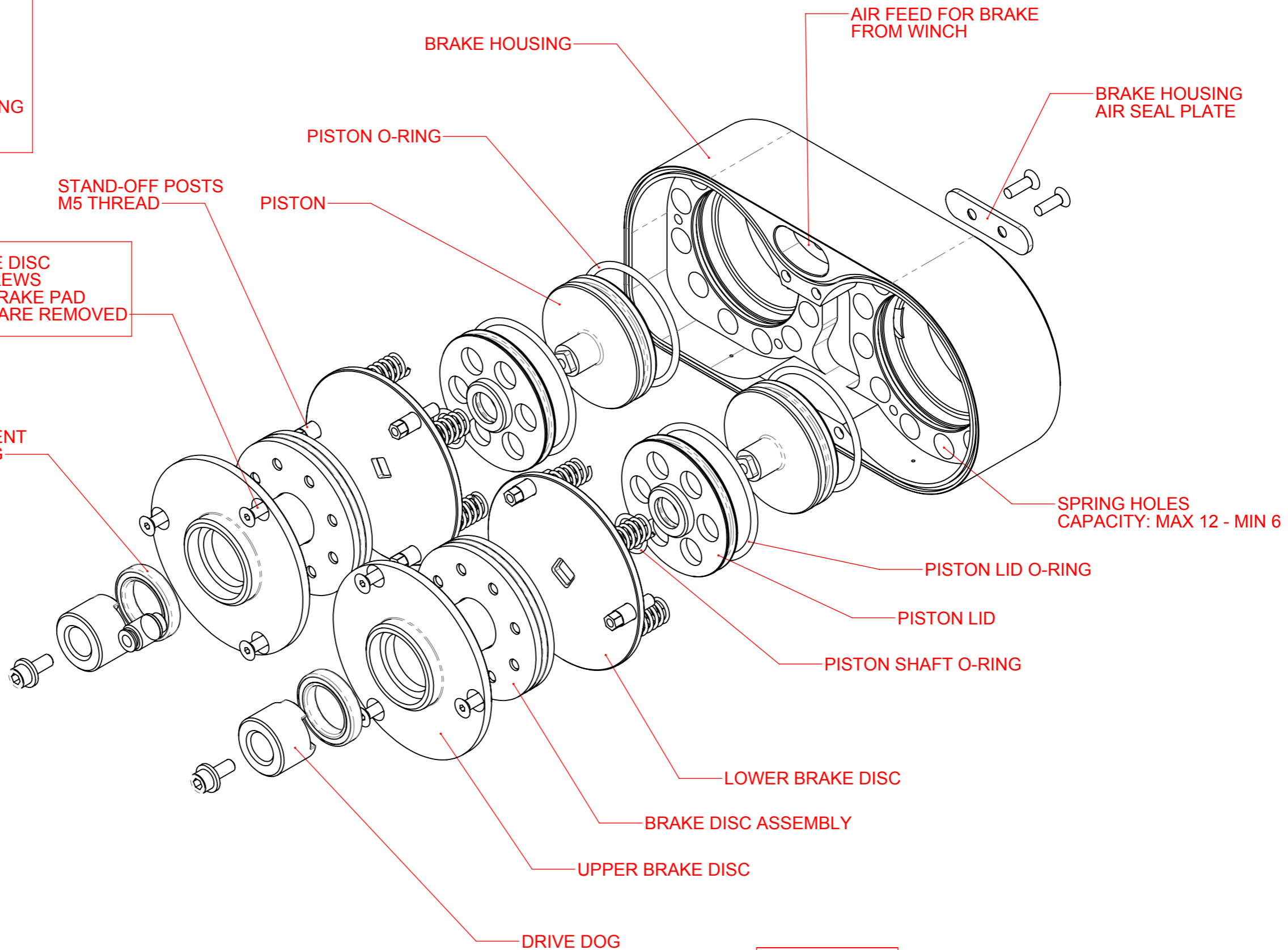
Grease Specification:
Castrol Spherol L-EP 2 or BP Energrease LS-EP 2

RED Winches		www.red-winch.com	
		ULTIMATE PERFORMANCE WINCH	
DRAWING NUMBER:	FREESPOOL DETAILS	SCALE:	1:3
		REVISION:	A
		SHT:	4
		OF:	10
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WINCH TYPE	HORNET	WINCH DESCRIPTION:	TWIN MOTOR, HIGH SPEED 12V / 24V DC, AIR BRAKE	Telephone: +44 (0)1460 67744 Email: sales@red-winch.com
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WARNING:
 ONLY REMOVE UPPER BRAKE DISC SCREWS WHILE THE BRAKE IS OFF.
 AIR MUST BE APPLIED TO THE UNIT TO TAKE PRESSURE OFF BEFORE ATTEMPTING TO REMOVE SCREWS

UPPER BRAKE DISC RELEASE SCREWS ACCESS TO BRAKE PAD ONCE THESE ARE REMOVED



O-RINGS MUST BE ALL LIGHTLY GREASED BEFORE ASSEMBLY
 HIGH TEMPERATURE O-RINGS MUST BE USED

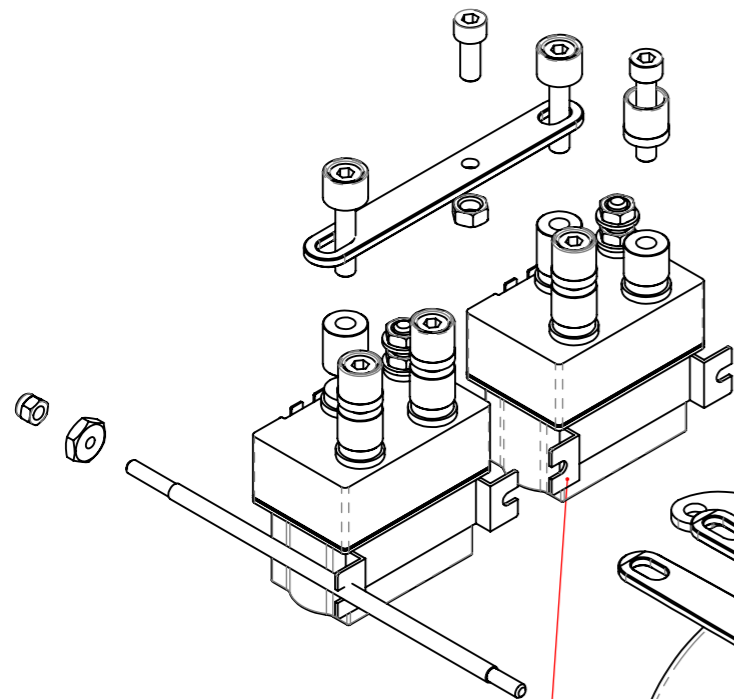
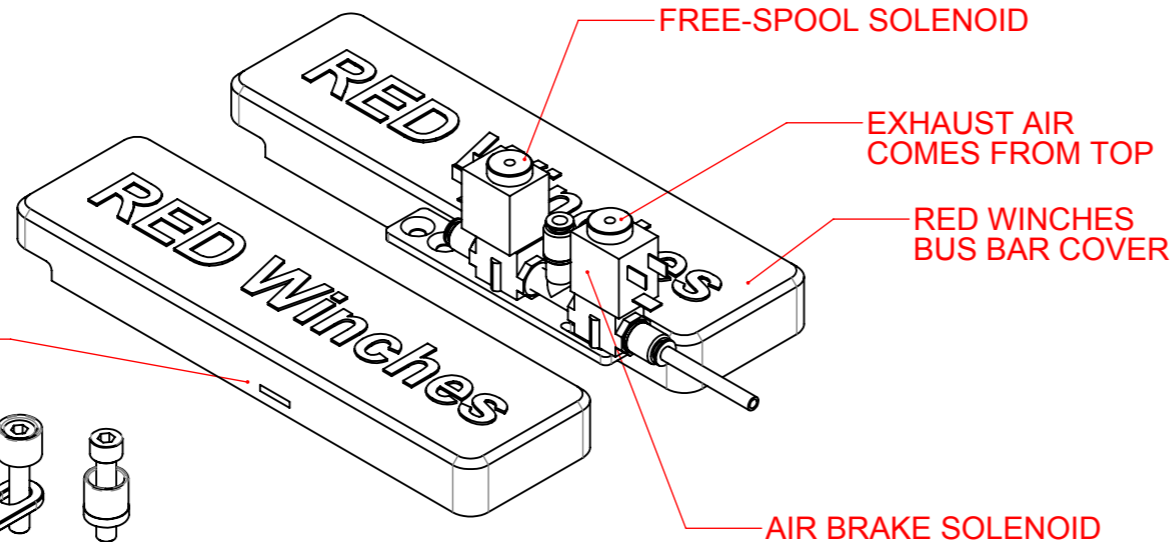
Grease Specification:
 Castrol Spherol L-EP 2 or BP Energrease LS-EP 2

UNLESS SPECIFIED	
FASTENER	TORQUE
M6	10 Nm
M8	24 Nm
M10	45 Nm
M12	80 Nm
M16	160 Nm
M20	200 Nm

ENSURE ALL FASTENERS ARE TORQUED TO THE CORRECT VALUES

LOCTITE 234 (THREADLOCKER) TO BE APPLIED ON ALL FASTENERS

USE SMALL ZIP TIE TO HOLD THE COVERS DOWN WHEN USED ON ROUGH TERRAIN OR TRAVELLING AT HIGH SPEED

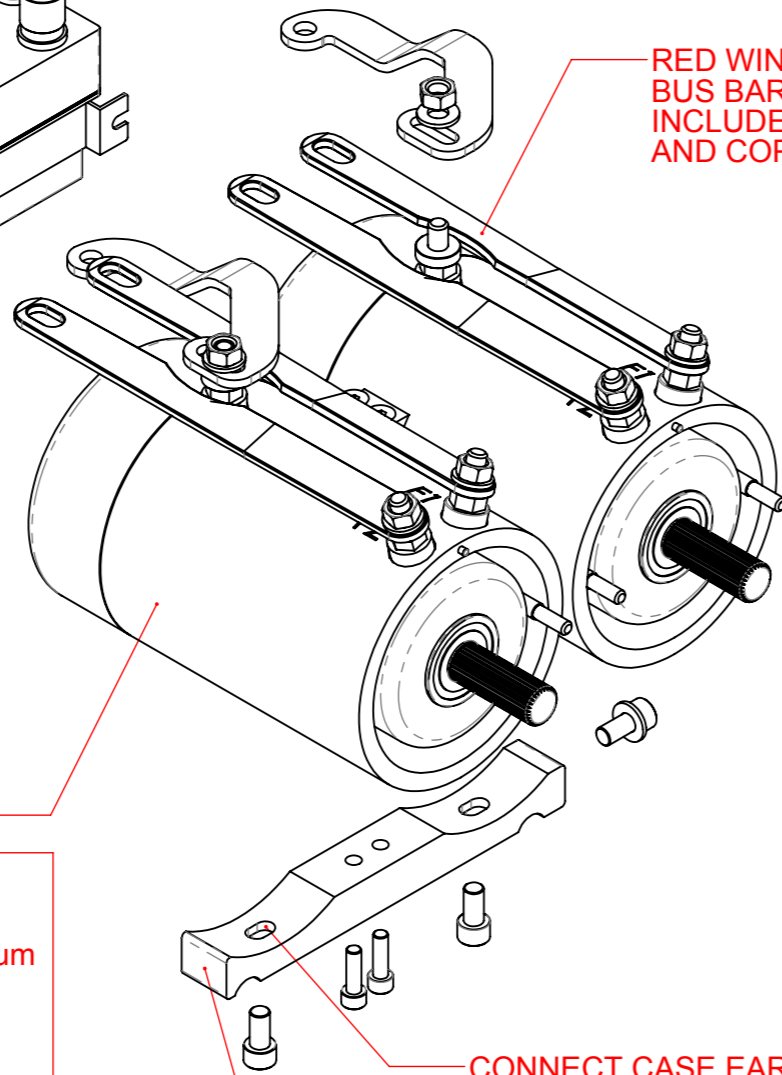


RED WINCHES BUS BAR ASSEMBLY INCLUDES ALL FASTENERS AND COPPER POSTS

12V / 24V DC MOTOR
5000 RPM
6.8 HP
55 NO LOAD AMPS

With the appropriate battery and alternator system, these BOWMOTORS will provide tremendous pulling power and a very high drum speed at no-load when respooling the rope back on to the drum.

Also, never allow the BOWMOTOR to 'over speed' or run in a no-load situation for too long as the armature could become damaged through revolving too fast.

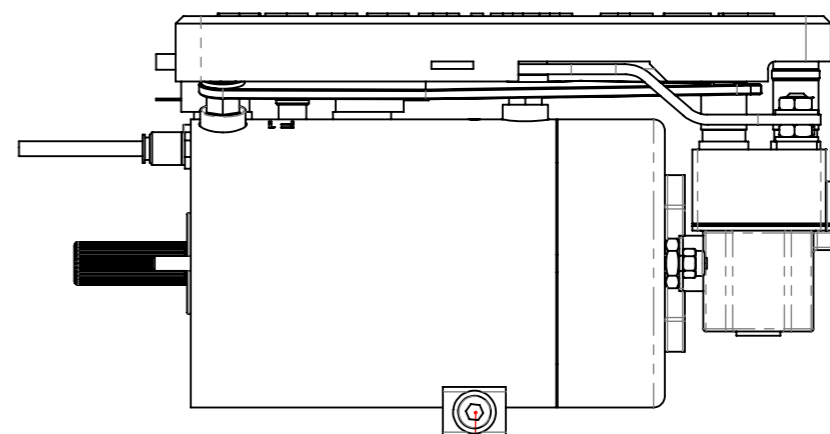
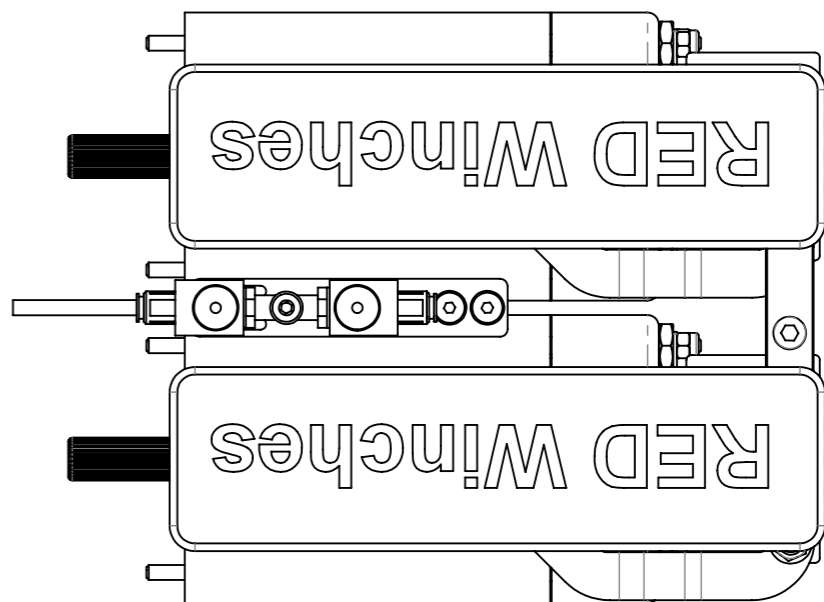


M8 EARTH CONNECTION THREAD

UNLESS SPECIFIED	
FASTENER	TORQUE
M6	10 Nm
M8	20 Nm
M10	35 Nm
M12	65 Nm
M16	130 Nm
M20	180 Nm

ENSURE ALL FASTENERS ARE TORQUED TO THE CORRECT VALUES

LOCTITE 234 (THREADLOCKER) TO BE APPLIED ON ALL FASTENERS



WINCH TYPE

HORNET

WINCH DESCRIPTION:

**TWIN MOTOR, HIGH SPEED
12V / 24V DC, AIR BRAKE**

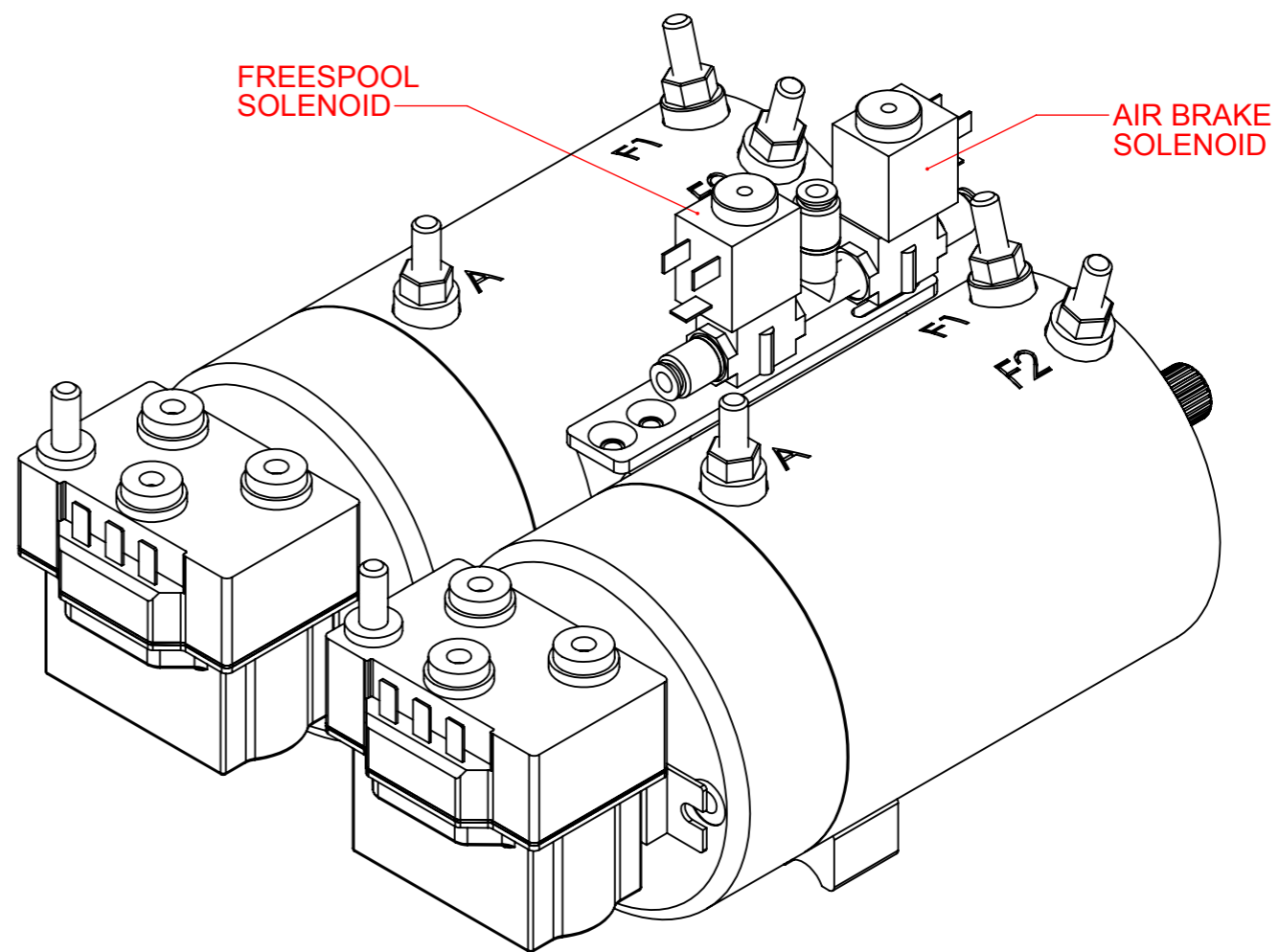
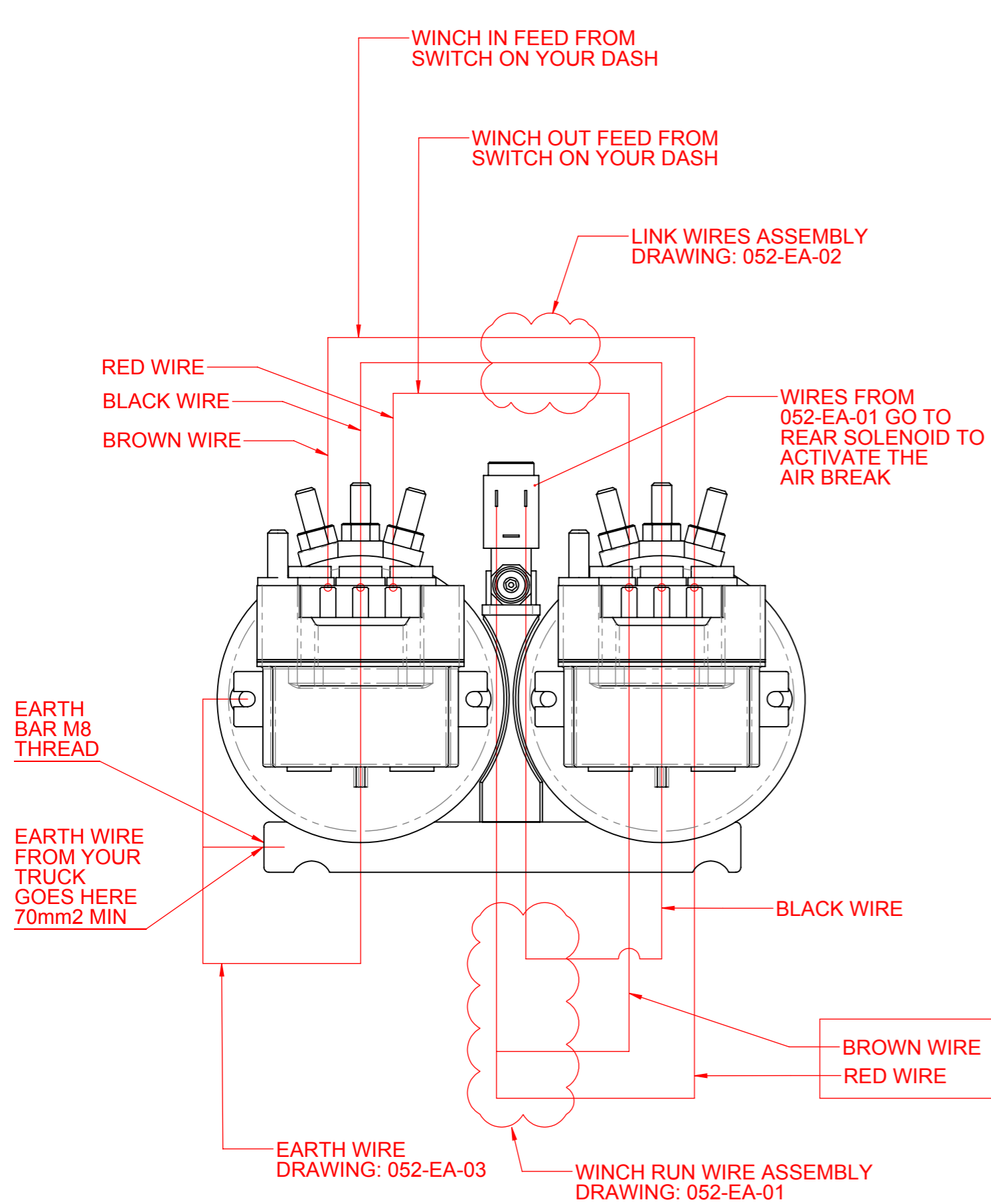
Telephone: +44 (0)1460 67744
Email: sales@red-winches.com

RED Winches www.red-winches.com
ULTIMATE PERFORMANCE WINCH

DRAWING NUMBER:
MOTOR ASSEMBLY

SCALE: 1:3
REVISION: **A**
SHT 6 OF 10

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WINCH TYPE

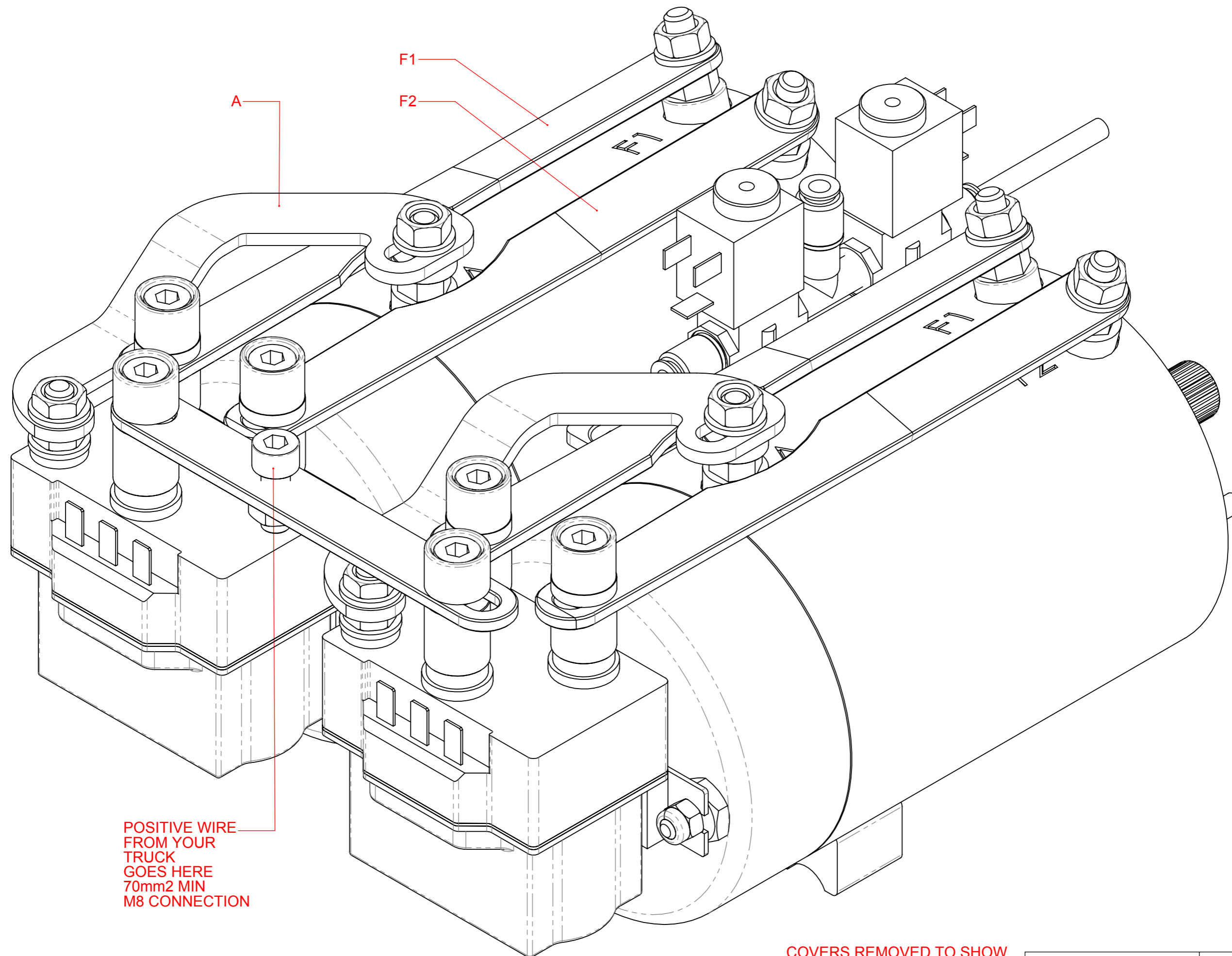
HORNET

WINCH DESCRIPTION:

**TWIN MOTOR, HIGH SPEED
12V / 24V DC, AIR BRAKE**

Telephone: +44 (0)1460 67744
Email: sales@red-winches.com

RED Winches		www.red-winches.com	
		ULTIMATE PERFORMANCE WINCH	
DRAWING NUMBER:	MOTOR ASSEMBLY	SCALE:	1:2
		REVISION:	A
		SHT 7	OF 10
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POSITIVE WIRE
FROM YOUR
TRUCK
GOES HERE
70mm² MIN
M8 CONNECTION

COVERS REMOVED TO SHOW
BUS BAR ARRANGEMENT

RED Winches

www.red-winch.com
ULTIMATE PERFORMANCE WINCH

WINCH
TYPE

HORNET

WINCH
DESCRIPTION:

**TWIN MOTOR, HIGH SPEED
12V / 24V DC, AIR BRAKE**

Telephone: +44 (0)1460 67744
Email: sales@red-winch.com

DRAWING NUMBER:
MOTOR ASSEMBLY

SCALE: 1:1
REVISION: **A**
SHT 8 OF 10

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Lubrication Details

Grease Specification: Castrol Spherol L-EP 2 or BP Energrease LS-EP 2

As a guide Grease must be applied to the gears in the end housing and air freespool clutch plate as per the following:

The lubrication frequency is based on constant winch usage in hours per month:

- 1-4 Hrs - Add grease and cover gears every 3 Months
- 4-12 Hrs - Add grease and cover gears every 2 Months
- 12-20 Hrs - Clean and Replace Grease Every Month
- 20-40 Hrs - Clean and Replace Grease Every 2 Weeks

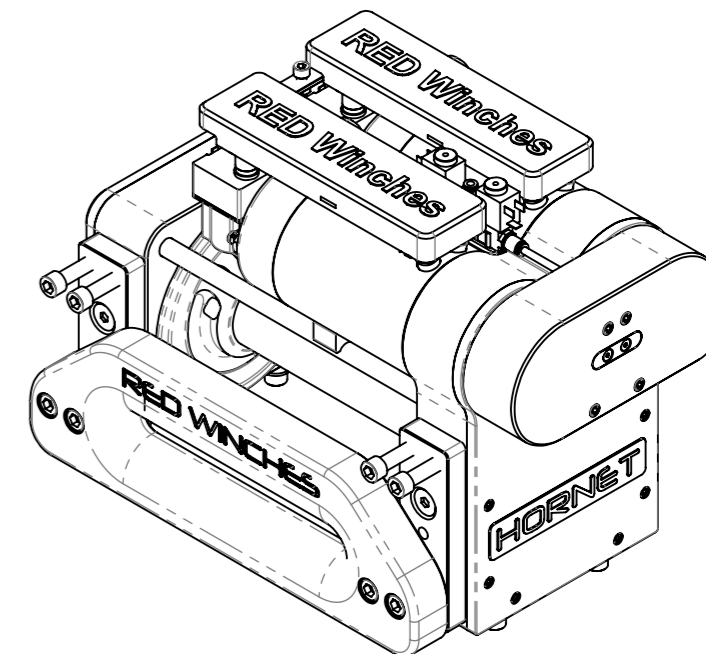
This is based on dry above water level conditions.

If winch has been used within water or wet muddy ground for more than 50% of the hours specified the greasing frequency needs to be increased to half of those shown in the above chart.

Every 12 months the internals of the winch gearbox and freespool should be cleaned and the grease should be replaced.

Important: Freespool must be cleaned and sprayed with duck oil after the winch has been submerged in mud or water...

DESCRIPTION	COMPLETED YES / NO	NOTES
ALL BOLTS AND SCREWS FITTED CORRECTLY		
ALL BOLTS AND SCREWS (APART FROM THOSE INDICATED) SECURED WITH LOCTITE 234		
ALL BOLTS AND SCREWS FITTED CORRECTLY AND TIGHTENED TO THE CORRECT TORQUE SETTING		
GEARS FULLY GREASED AND MINIMUM OF 1" OF GREASE IN LOWER PART OF CASE		
AIR BRAKE ASSEMBLY LIGHTLY GREASED AND ALL O-RINGS FITTED.		
AIR BRAKE ASSEMBLY FULLY TESTED TO ENSURE BRAKE PADS ARE FREE TO ROTATE WITH NO HIGH SPOTS WHEN AIR IS APPLIED AND THE BRAKES ARE OFF.		
AIR SOLENOIDS CHECKED FOR LEAKS. ENSURE THREADLOCKING IS NOT LEAKING AIR		
AIR FREESPOOL GREASED ON SPLINE AND DISC. DUCK OIL APPLIED INTERNALLY ON O-RINGS AND PISTON.		
AIR FREESPOOL FUNCTION TESTED AT LEAST 20 TIMES. TO WORK EVERY TIME OTHERWISE STRIP DOWN AND CHECK.		
WIRING TESTED PRIOR TO ASSEMBLING ON WINCH.		
WINCH POWERED AND TESTED IN BOTH DIRECTIONS. AIR FREESPOOL AND BRAKE SOLENOID CHECKED TO ENSURE CORRECT OPERATION.		
BUS BAR ARRANGEMENT CHECKED FOR CONTINUITY. ZIP TIES FITTED ON COVERS		



NAME OF ENGINEER BUILT / PERFORMED FIANL CHECKS	SIGNATURE	WINCH SERIAL NUMBER

RED Winches	www.red-winches.com ULTIMATE PERFORMANCE WINCH		
DRAWING NUMBER: HORNET	SCALE: 1:1	REVISION: A	SHT 10 OF 10
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PUMP
TYPE

INSPECTION SHEET

PUMP
DESCRIPTION:

**TWIN MOTOR, HIGH SPEED
12V / 24V DC, AIR BRAKE**

Telephone: +44 (0)1460 67744
Email: sales@red-winches.com