

# **RED Winches**

## **COBRA 2**

### **STANDARD DRUM LENGTH**

**STANDARD GEAR BOX - RATIO 108:1**

**RATED PULL: 3,750KG**

**AIR BRAKE FITTED ON ALL OPTIONS**

**OX MOTOR FITTED ON ALL OPTIONS FOR THE  
ULTIMATE POWER BEHIND YOUR WINCHING**



This winch is a RED WINCHES designed product, whose designs have undergone extensive testing. The end user can now enjoy a professional highly engineered, precision, high performance electric winch capable of operating in the most demanding of situations. The small compact size combined with its pulling power and billet CNC housings make it an ideal winch for maximum impact when faced with minimal installation space

<b>RED Winches</b>	<a href="http://www.red-winch.com">www.red-winch.com</a> <i>ULTIMATE PERFORMANCE WINCH</i>		
DRAWING NUMBER: COBRA2 TECHNICAL MANUAL	SCALE: 1:2	REVISION: <b>A</b>	SHT 1 OF 11
<small>Drawing not to be reproduced or distributed in any format or method without specific permission from Redstart/Design.</small>			

WINCH  
TYPE

**COBRA 2 (STD GB)**

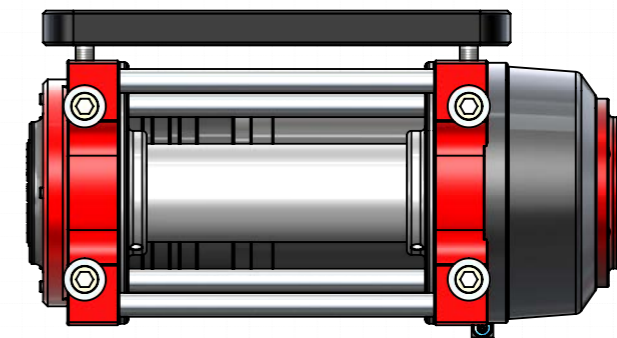
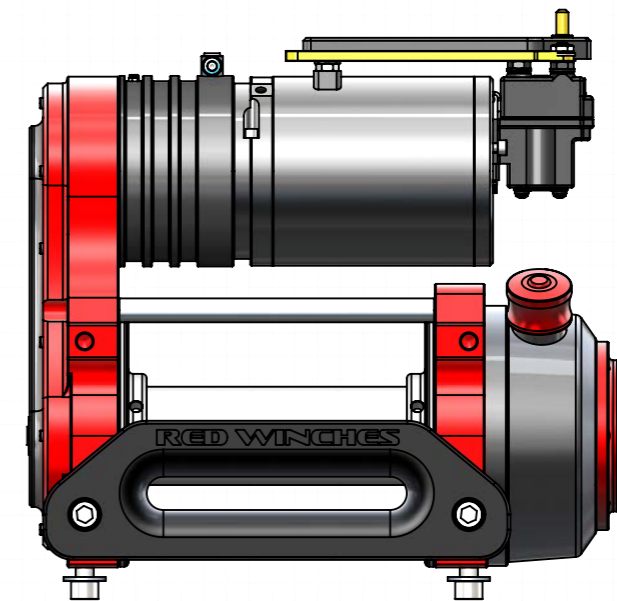
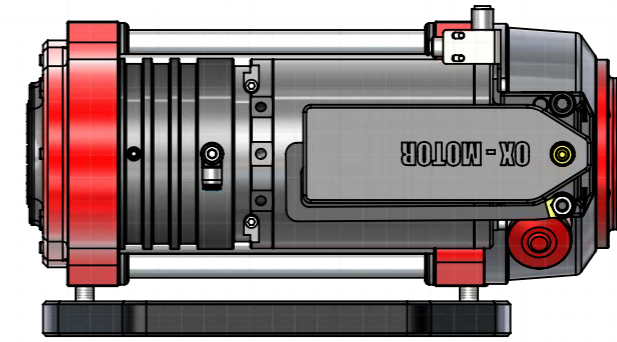
WINCH  
DESCRIPTION:

**LOW LINE, SINGLE MOTOR, 12V / 24V DC  
AIR BRAKE, FREESPOOL**

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

## CONTENTS

1. WINCH MANUAL COVER
2. CONTENTS PAGE
3. WINCH DIMENSIONS
4. WINCH OVERVIEW DIAGRAM
5. WINCH EXPLODED DIAGRAM
6. WINCH PULLEY ARRANGEMENT
7. WINCH FREESPOOL DIAGRAM
8. WIRING CONNECTION SCHEMATIC
9. OX MOTOR DIAGRAM
10. BRAKE ASSEMBLY
11. STANDARD GEAR BOX DIAGRAM



TITLE

**RED WINCH COBRA 2 STANDARD GEARBOX - TECHNICAL MANUAL**

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

**RED Winches**

www.red-winches.com  
ULTIMATE PERFORMANCE PRODUCTS

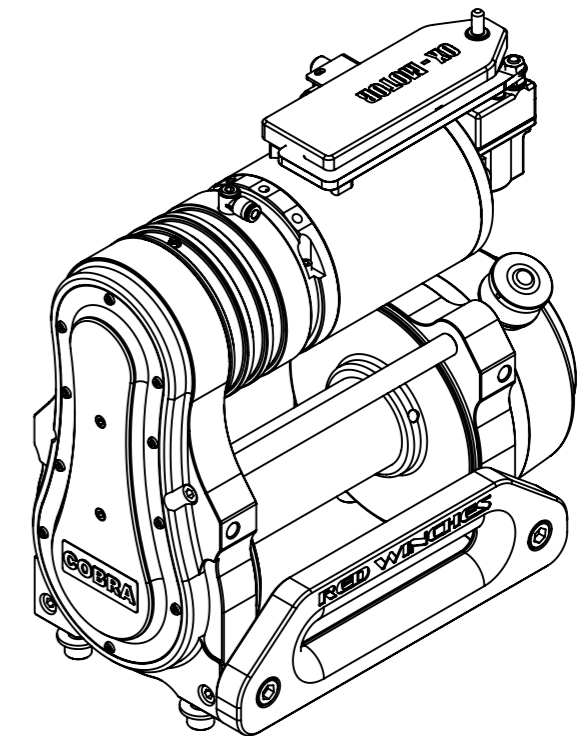
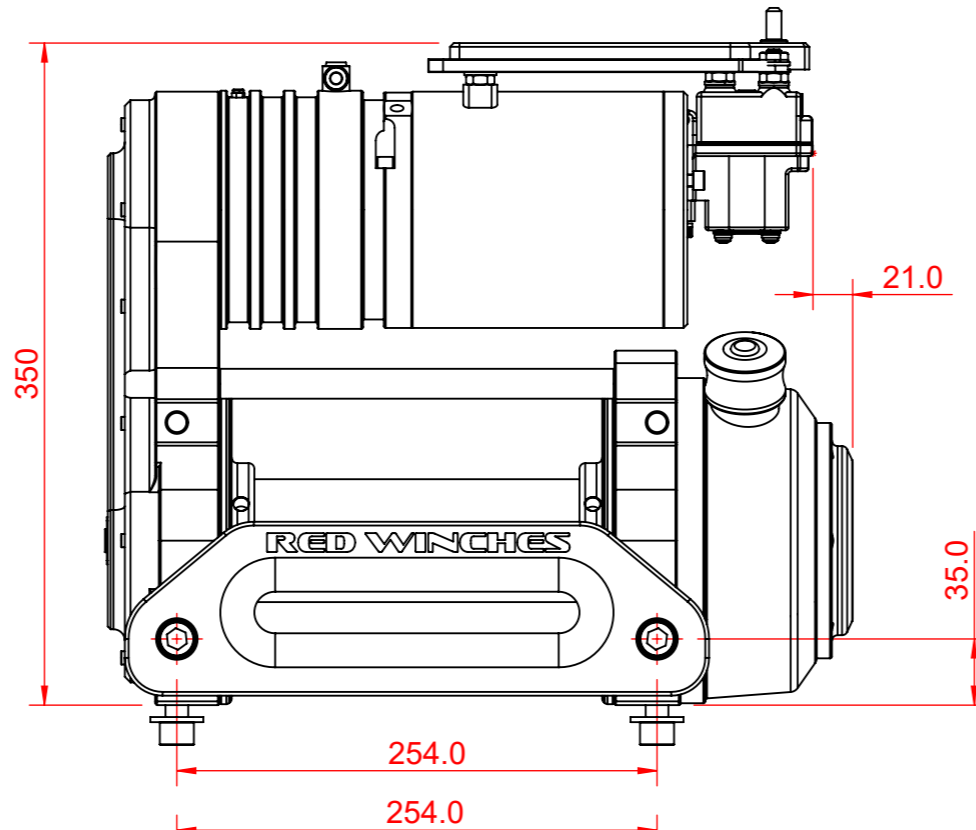
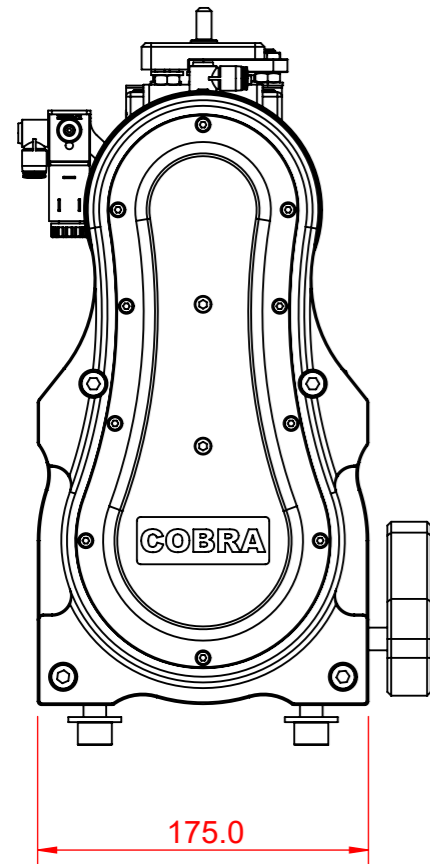
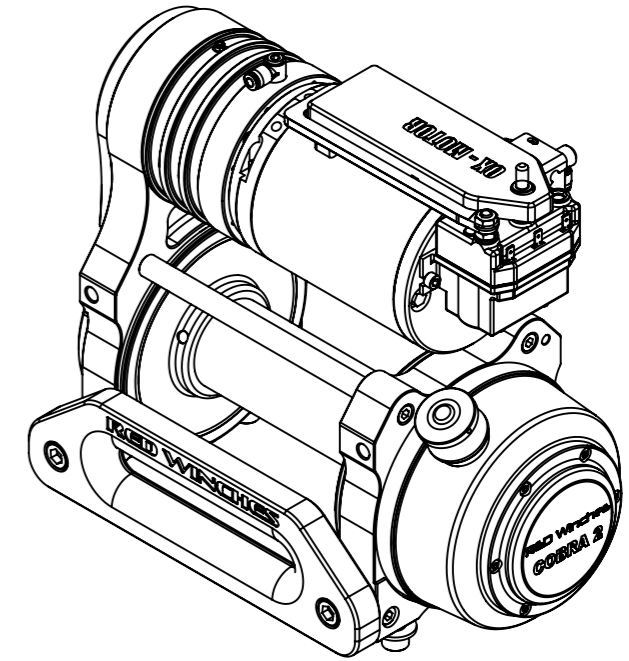
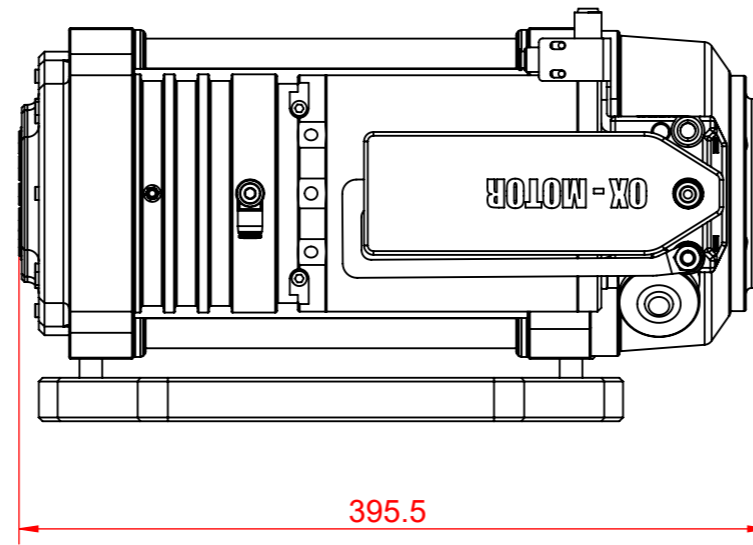
DRAWING NUMBER:

CONTENTS

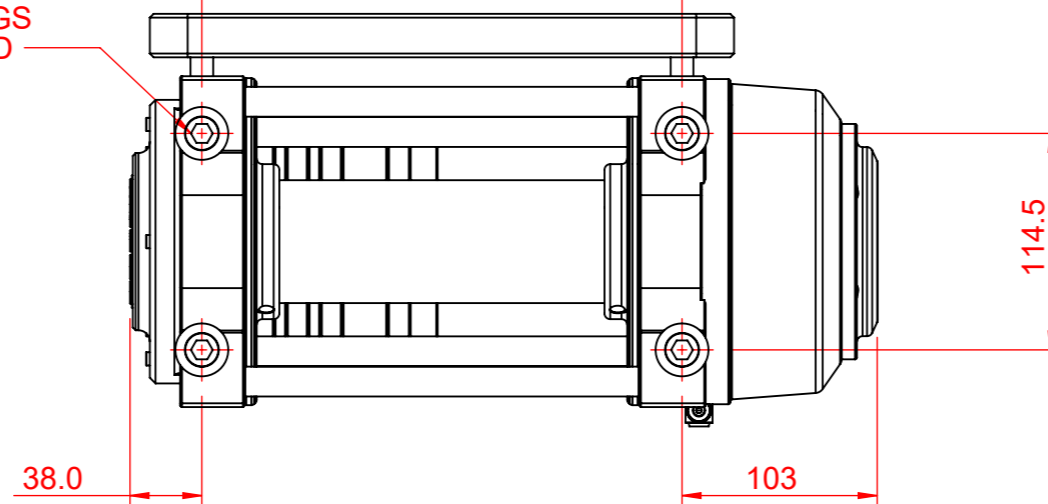
SCALE SHT 2  
1:10 OF 11

Drawing not to be reproduced or distributed in any format or method without specific permission from Redstart/Design.

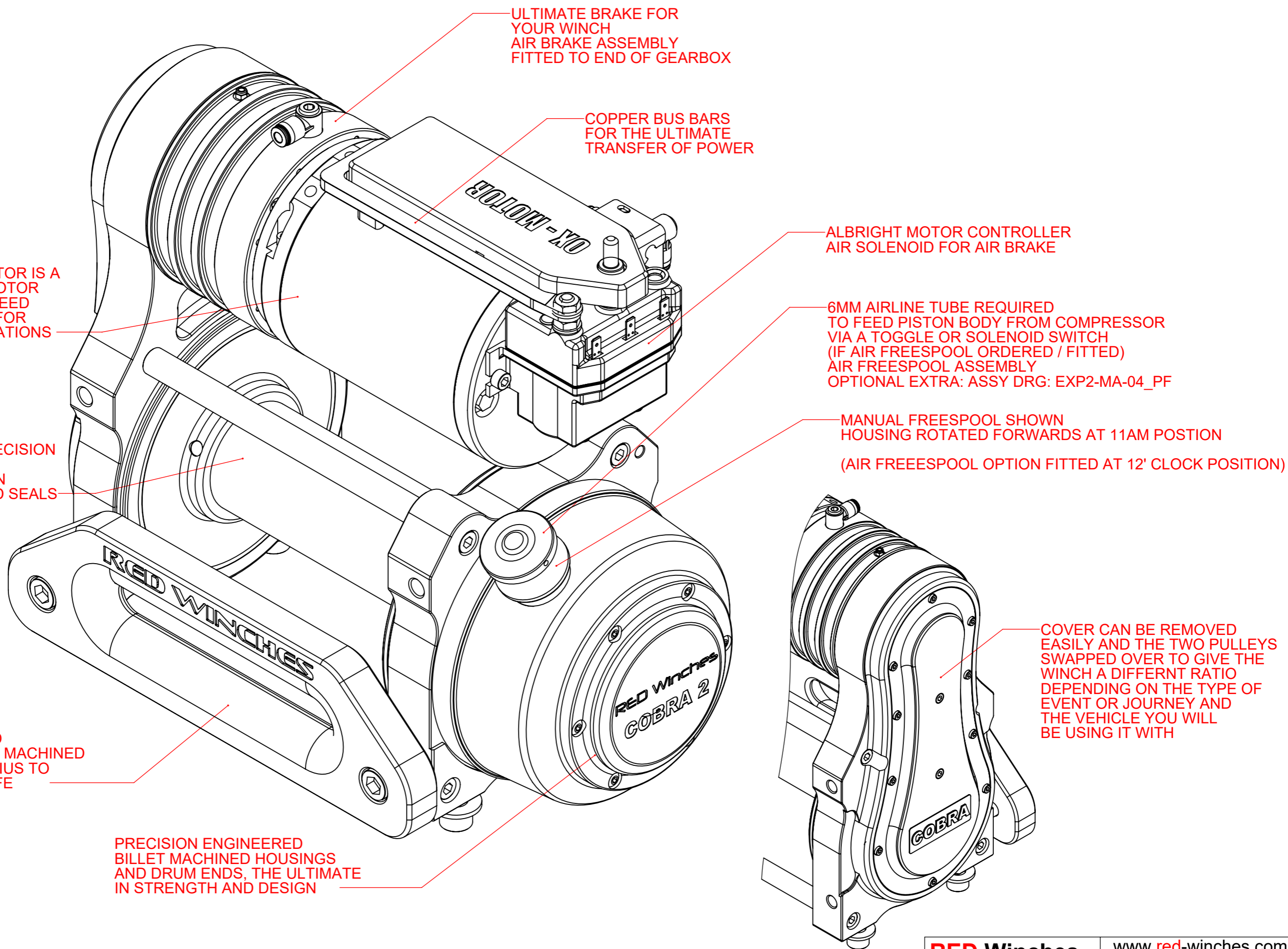
**COBRA2 STANDARD GEARBOX**  
**WINCH WEIGHT = 36kg**  
**STANDARD DRUM WIDTH**



M12 FIXINGS  
 12.9 RATED







ULTIMATE BRAKE FOR YOUR WINCH  
AIR BRAKE ASSEMBLY  
FITTED TO END OF GEARBOX

COPPER BUS BARS FOR THE ULTIMATE  
TRANSFER OF POWER

ALBRIGHT MOTOR CONTROLLER  
AIR SOLENOID FOR AIR BRAKE

6MM AIRLINE TUBE REQUIRED  
TO FEED PISTON BODY FROM COMPRESSOR  
VIA A TOGGLE OR SOLENOID SWITCH  
(IF AIR FREESPOOL ORDERED / FITTED)  
AIR FREESPOOL ASSEMBLY  
OPTIONAL EXTRA: ASSY DRG: EXP2-MA-04\_PF

MANUAL FREESPOOL SHOWN  
HOUSING ROTATED FORWARDS AT 11AM POSTION  
(AIR FREESPOOL OPTION FITTED AT 12' CLOCK POSITION)

COVER CAN BE REMOVED  
EASILY AND THE TWO PULLEYS  
SWAPPED OVER TO GIVE THE  
WINCH A DIFFERNT RATIO  
DEPENDING ON THE TYPE OF  
EVENT OR JOURNEY AND  
THE VEHICLE YOU WILL  
BE USING IT WITH

THE MIGHTY OX MOTOR IS A  
VERY POWERFUL MOTOR  
PROVIDING HIGH SPEED  
AND HIGH TORQUE FOR  
ALL WINCHING SITUATIONS

ENGINEERED DRUM  
SUPPORTED BY PRECISION  
SEALED BEARINGS  
ADDED PROTECTION  
FROM 2 x DRUM END SEALS

HAWSE FAIRLEAD  
ALUMINIUM - CNC MACHINED  
WITH LARGE RADIUS TO  
EXTEND ROPE LIFE

PRECISION ENGINEERED  
BILLET MACHINED HOUSINGS  
AND DRUM ENDS, THE ULTIMATE  
IN STRENGTH AND DESIGN

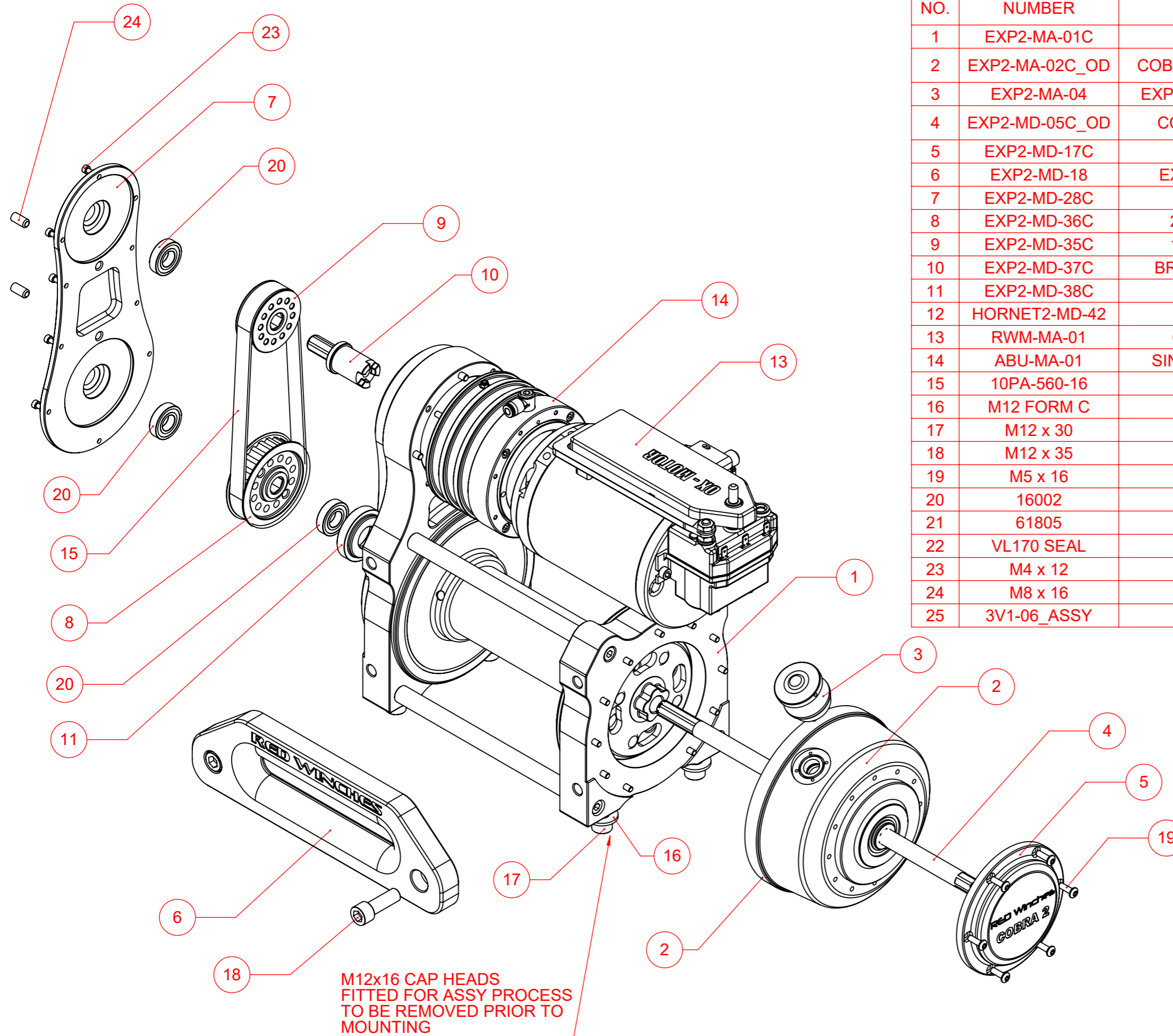
**RED Winches** [www.red-winch.com](http://www.red-winch.com)  
ULTIMATE PERFORMANCE PRODUCTS

TITLE **RED WINCH COBRA 2 STANDARD GEARBOX - TECHNICAL MANUAL**

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

DRAWING NUMBER: WINCH OVERVIEW DIAGRAM  
SCALE: 1:2 SHT 4 OF 11

Drawing not to be reproduced or distributed in any format or method without specific permission from Redstart/Design.



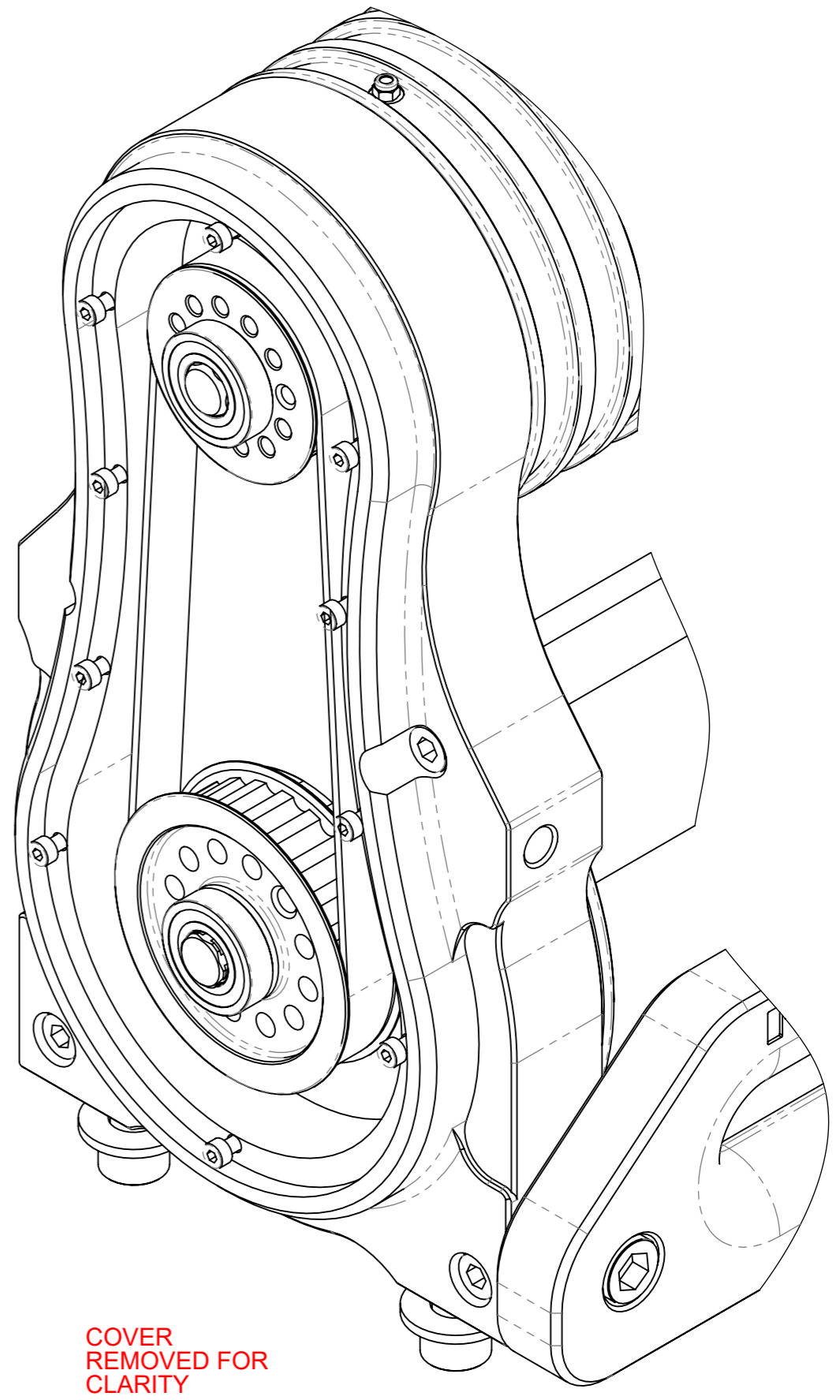
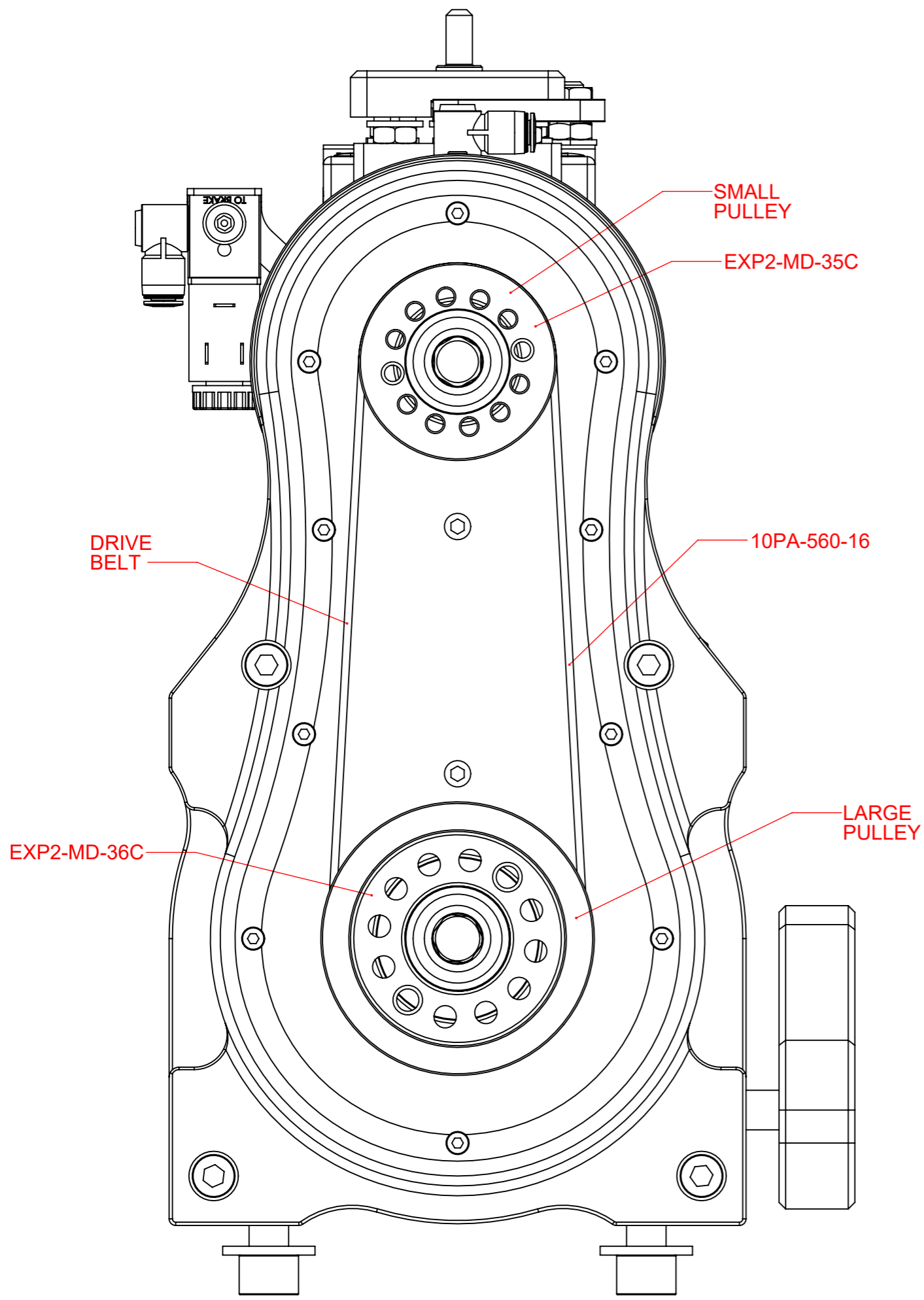
ITEM NO.	PART / DRG NUMBER	DESCRIPTION	OX MOTOR/WITH BOX/QTY.
1	EXP2-MA-01C	COBRA 2 WINCH BODY ASSY	1
2	EXP2-MA-02C_OD	COBRA 2 GEARBOX ASSY-OVERDRIVE	1
3	EXP2-MA-04	EXPLORER 2 FREESPOOL ASSEMBLY	1
4	EXP2-MD-05C_OD	COBRA-2 DRIVE SHAFT - O/DRIVE	1
5	EXP2-MD-17C	END PLATE - COBRA	1
6	EXP2-MD-18	EXPLORER2 / COBRA2 FAIRLEAD	1
7	EXP2-MD-28C	COVER	1
8	EXP2-MD-36C	24T-10P-16W PULLEY - COBRA	1
9	EXP2-MD-35C	18T-10P-16W PULLEY - COBRA	1
10	EXP2-MD-37C	BRAKE DRIVE COUPLING - COBRA	1
11	EXP2-MD-38C	BEARING CARRIER - COBRA	1
12	HORNET2-MD-42	AIR SOLENOID BRACKET	1
13	RWM-MA-01	OX MOTOR ASSEMBLY - DC88	1
14	ABU-MA-01	SINGLE MOTOR BRAKE ASSEMBLY	1
15	10PA-560-16	COBRA DRIVE BELT	1
16	M12 FORM C	WASHER	4
17	M12 x 30	M12 x 30 CAP HD SCREW	4
18	M12 x 35	M12 x 35 CAP HD SCREW	2
19	M5 x 16	M5 x 16 SKT BUTT HD	6
20	16002	BALL BEARING (32 x 15 x 8)	3
21	61805	BALL BEARING (25 x 37 x 7)	1
22	VL170 SEAL	V170 SEAL	2
23	M4 x 12	M4 x 12 SKT CP HEAD	10
24	M8 x 16	M8 x 16 GRUB SCREW	2
25	3V1-06_ASSY	AIR SOLENOID	1

## COBRA 2 (STD) EXPLODED DIAGRAM

**TITLE** RED WINCH COBRA 2 STANDARD GEARBOX - TECHNICAL MANUAL

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

<b>RED Winches</b>	www.red-winches.com <small>ULTIMATE PERFORMANCE PRODUCTS</small>	
	DRAWING NUMBER: <b>WINCH EXPLODED DIAGRAM</b>	SCALE: SHT 5 <b>1:3</b> OF 11
<small>Drawing not to be reproduced or distributed in any format or method without specific permission from Redstart/Design.</small>		





**MANUAL FREESPOOL ASSEMBLY (NOT SHOWN)**

**DRUM FREESPOOL:**

LIFT AND ROTATE TO  
INITIATE DRUM FREESPOOL MOVEMENT

**ENGAGE DRUM:**

ROTATE AND LOWER

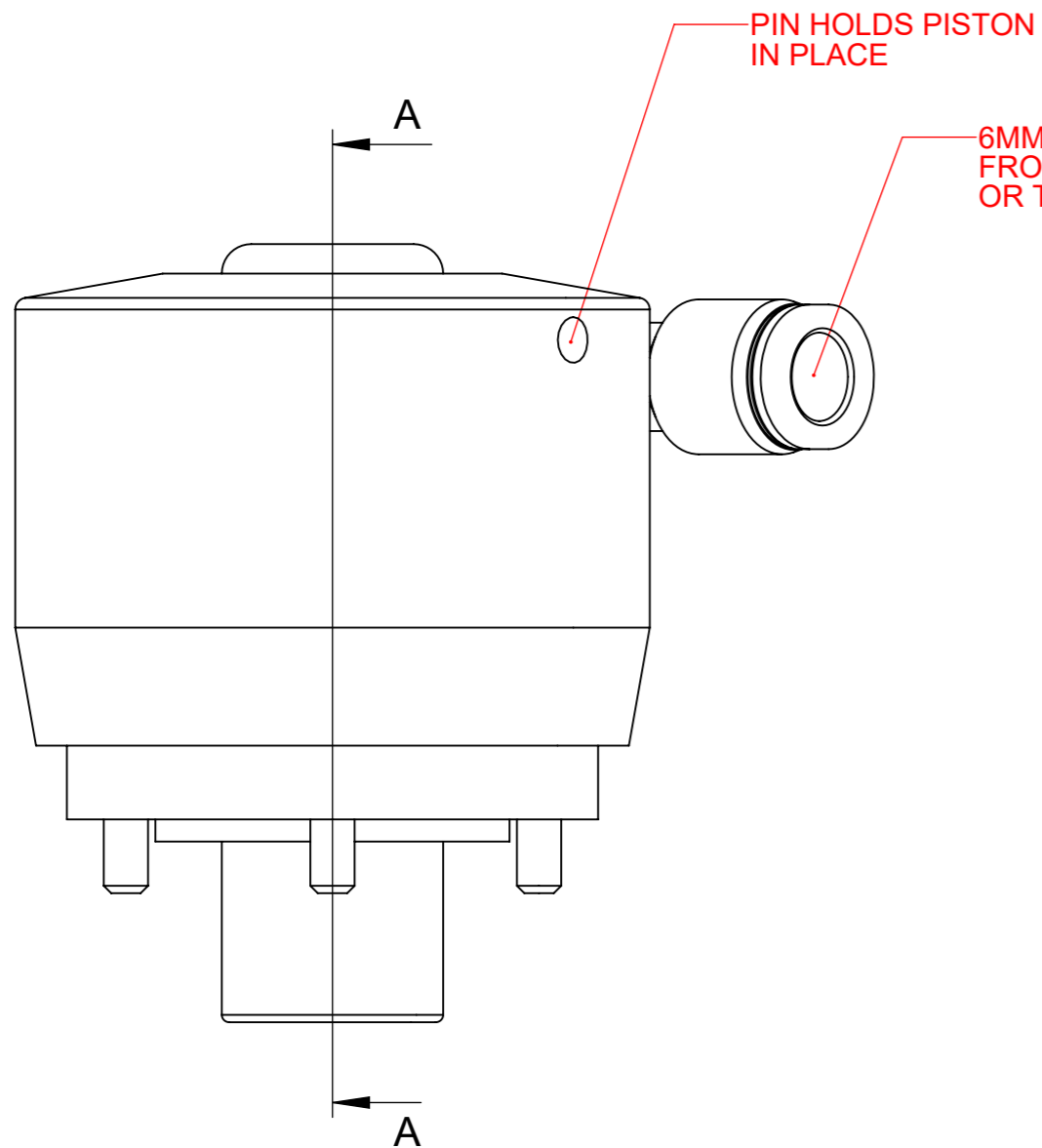
**AIR FREESPOOL ASSEMBLY (SHOWN)**

**DRUM FREESPOOL:**

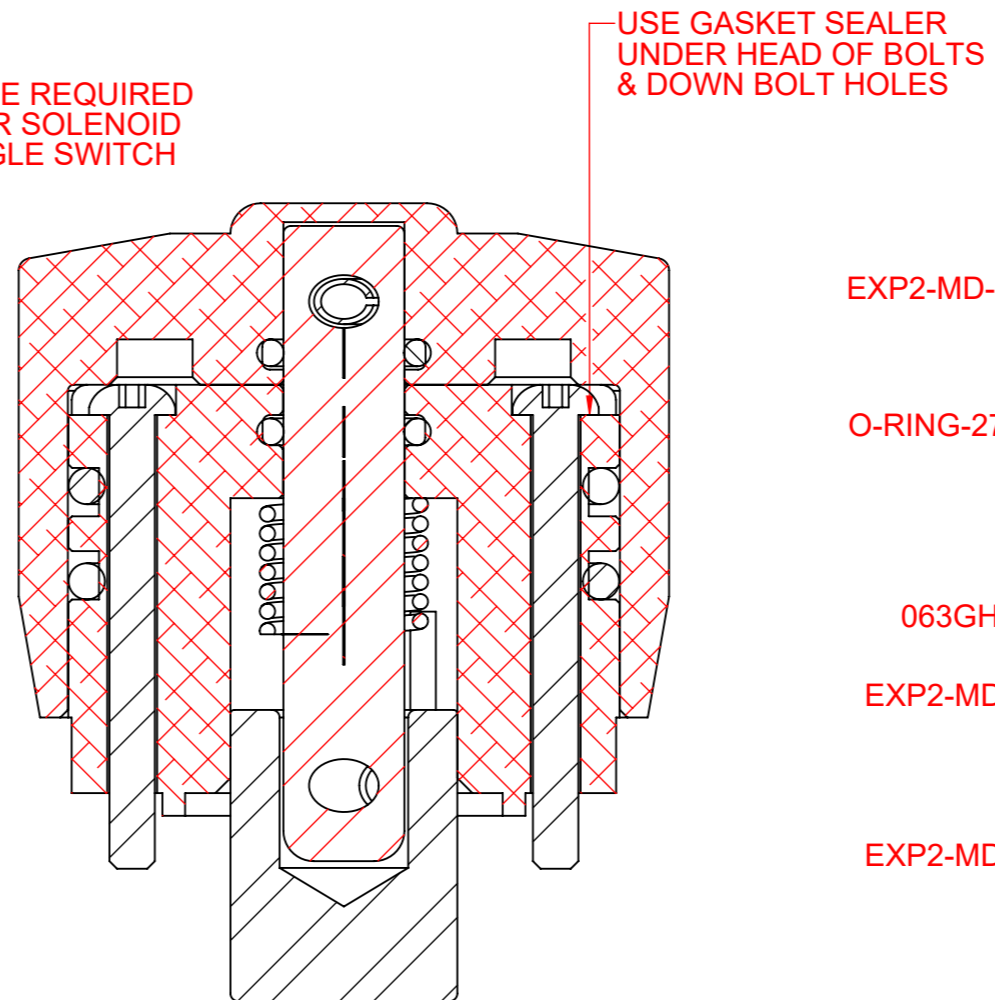
SWITCH OPERATED OR WIRELESS  
AIR SUPPLIED THROUGH A 2-WAY DC SOLENOID VALVE

**ENGAGE DRUM:**

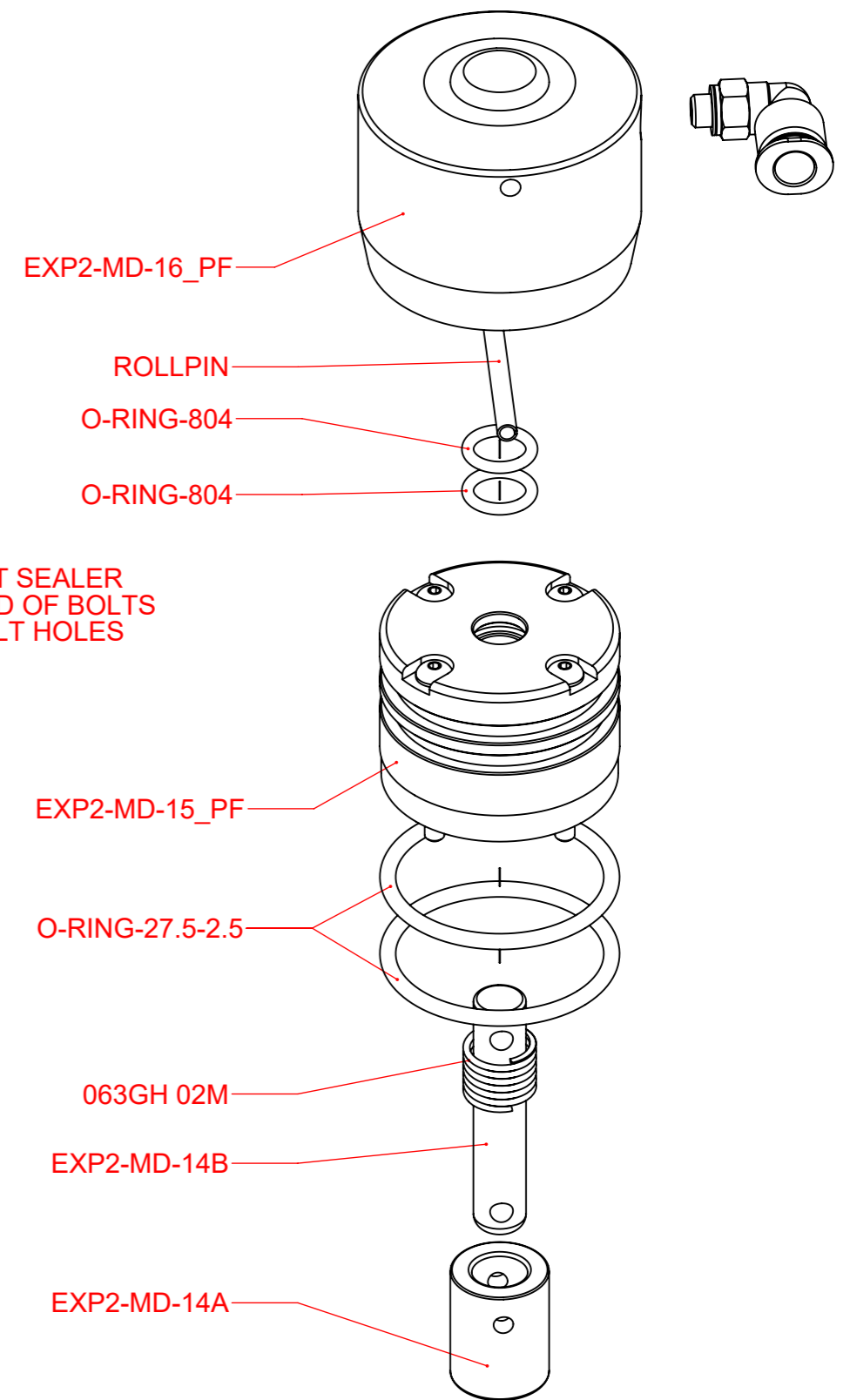
REMOVE POWER, AIR EXHAUSTS, PIN RE-ENGAGES

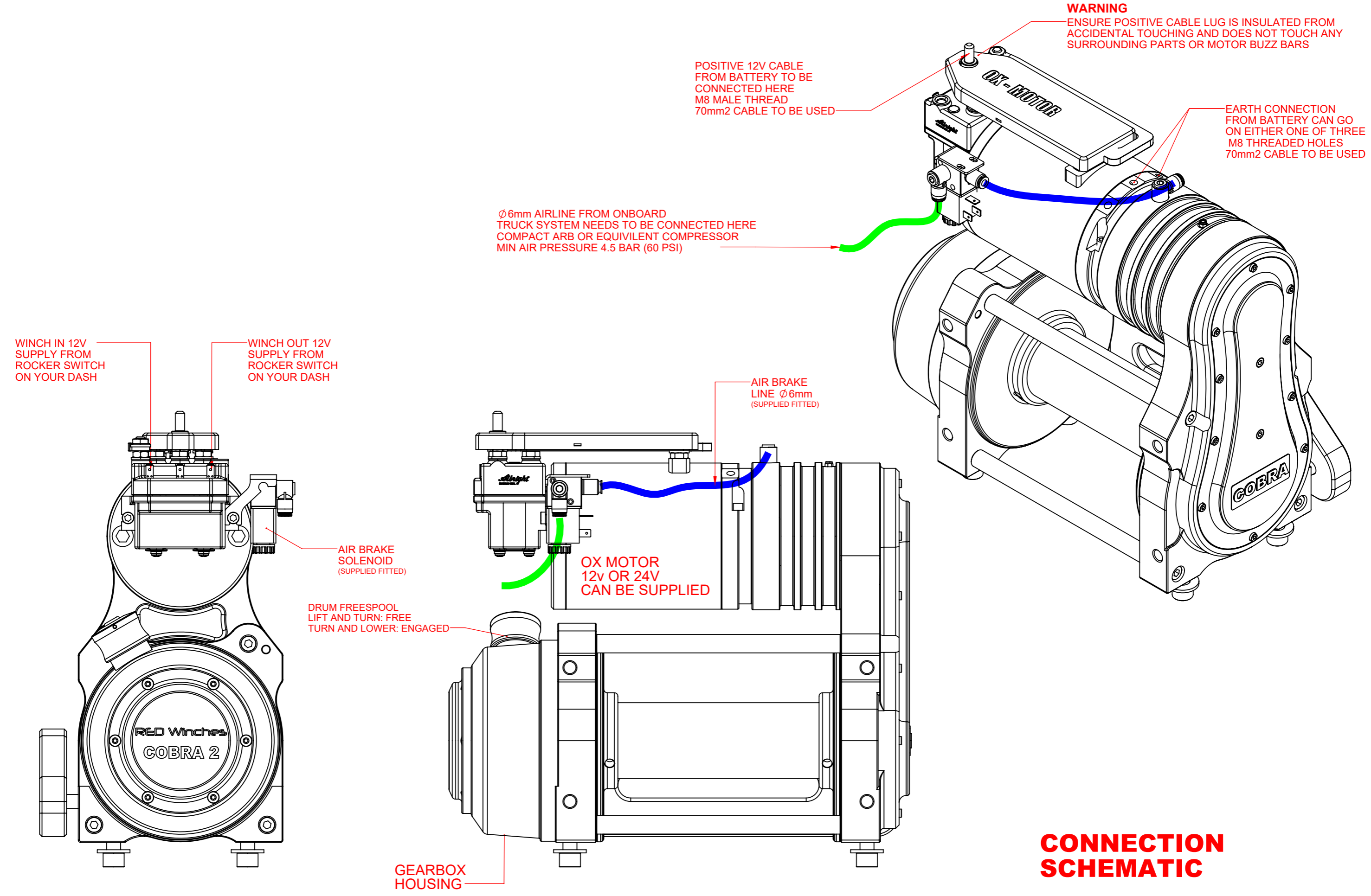


6MM TUBE REQUIRED  
FROM AIR SOLENOID  
OR TOGGLE SWITCH



SECTION A-A





## CONNECTION SCHEMATIC

<b>RED Winches</b>		www.red-winches.com	
		ULTIMATE PERFORMANCE PRODUCTS	
DRAWING NUMBER:	WIRING CONNECTION SCHEMATIC		SCALE: 1:3
			SHT 8 OF 11
Drawing not to be reproduced or distributed in any format or method without specific permission from Redstart/Design.			



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

**WARNING**

Never allow the OX motor to 'over-speed' or run in a no-load situation for too long as the armature could become damaged through revolving too fast

ALRIGHT HEAVY DUTY SOLENOIDS

M8 EARTH CONNECTIONS (3)

POSITIVE CONNECTION

POSITIVE 12V CABLE FROM BATTERY TO BE CONNECTED HERE  
M8 MALE THREAD  
70MM<sup>2</sup> CABLE TO BE USED

BUS BAR COVER

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

O-RING IN END PLATE

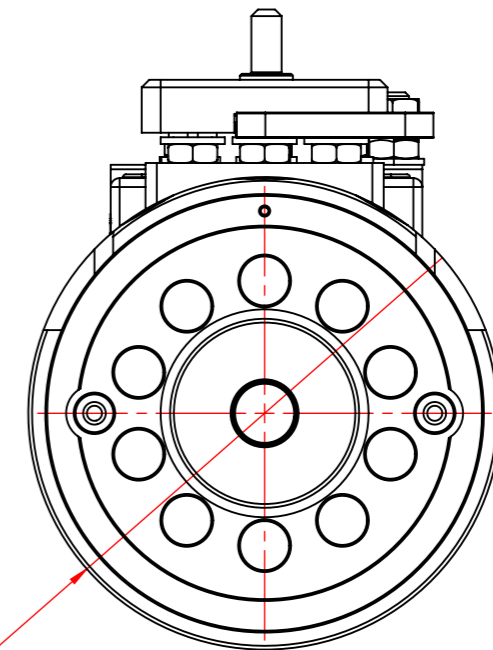
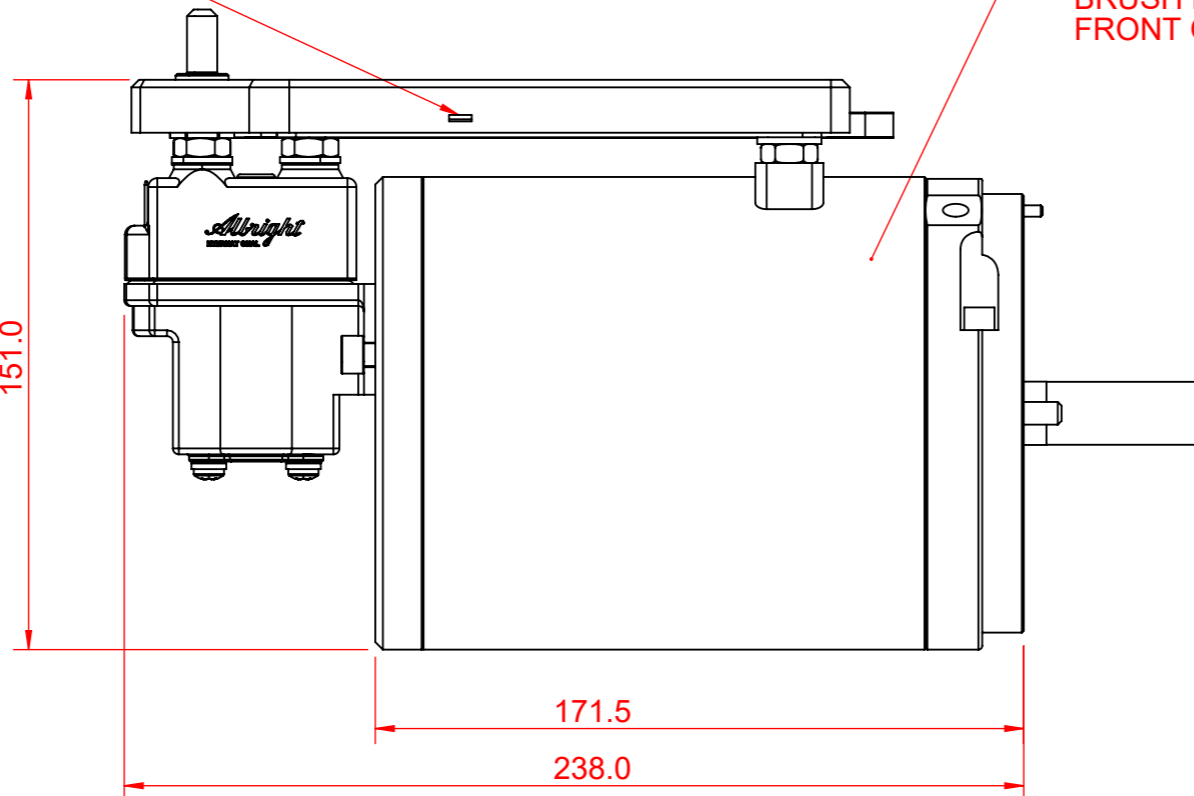
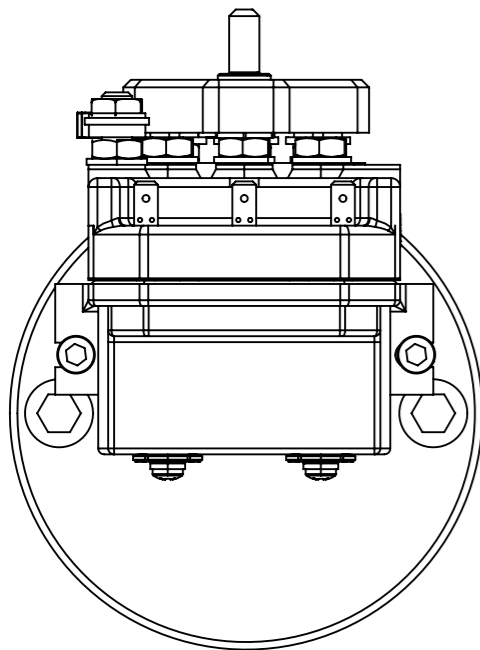
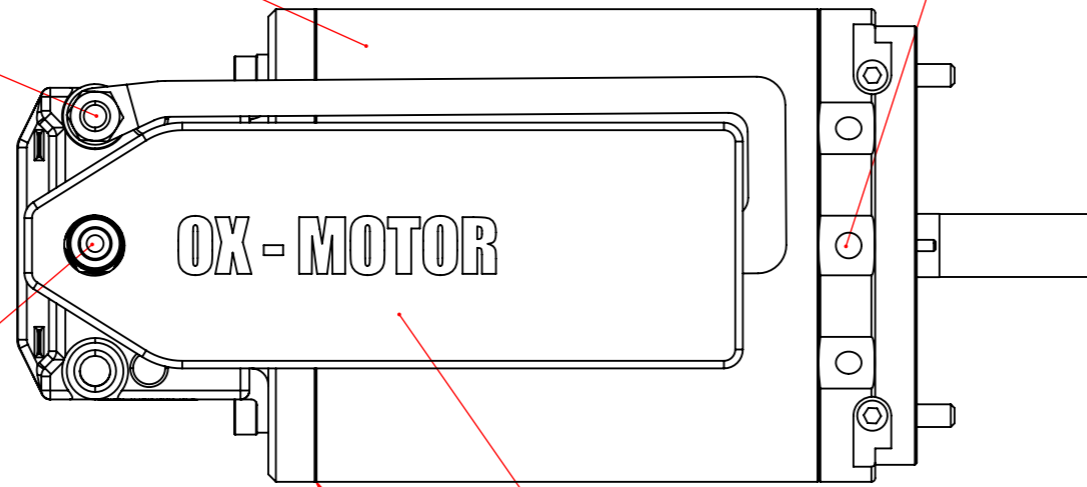
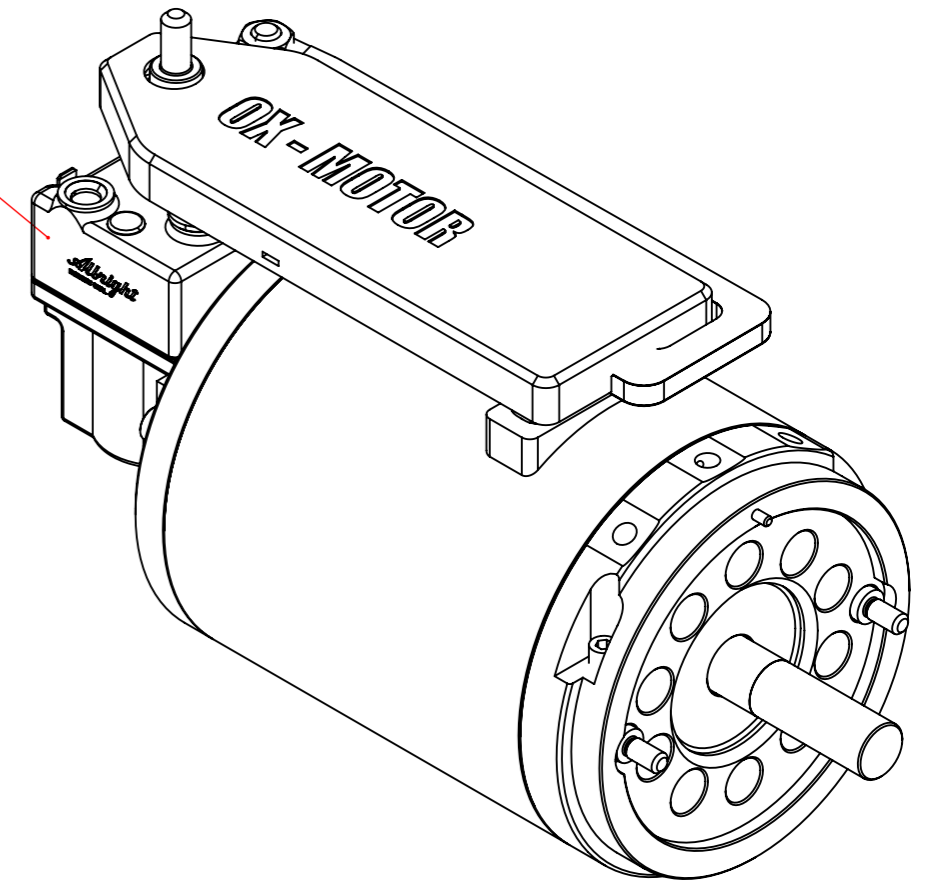
BRUSH PACK IN FRONT OF MOTOR

151.0

171.5

238.0

∅ 125.0



**WARNING**

ONLY REMOVE BRAKE DISC SCREWS WHILE THE AIR IS ON.

AIR MUST BE APPLIED TO THE UNIT TO TAKE PRESSURE OFF THE BRAKE PADS BEFORE ATTEMPTING TO REMOVE SCREWS

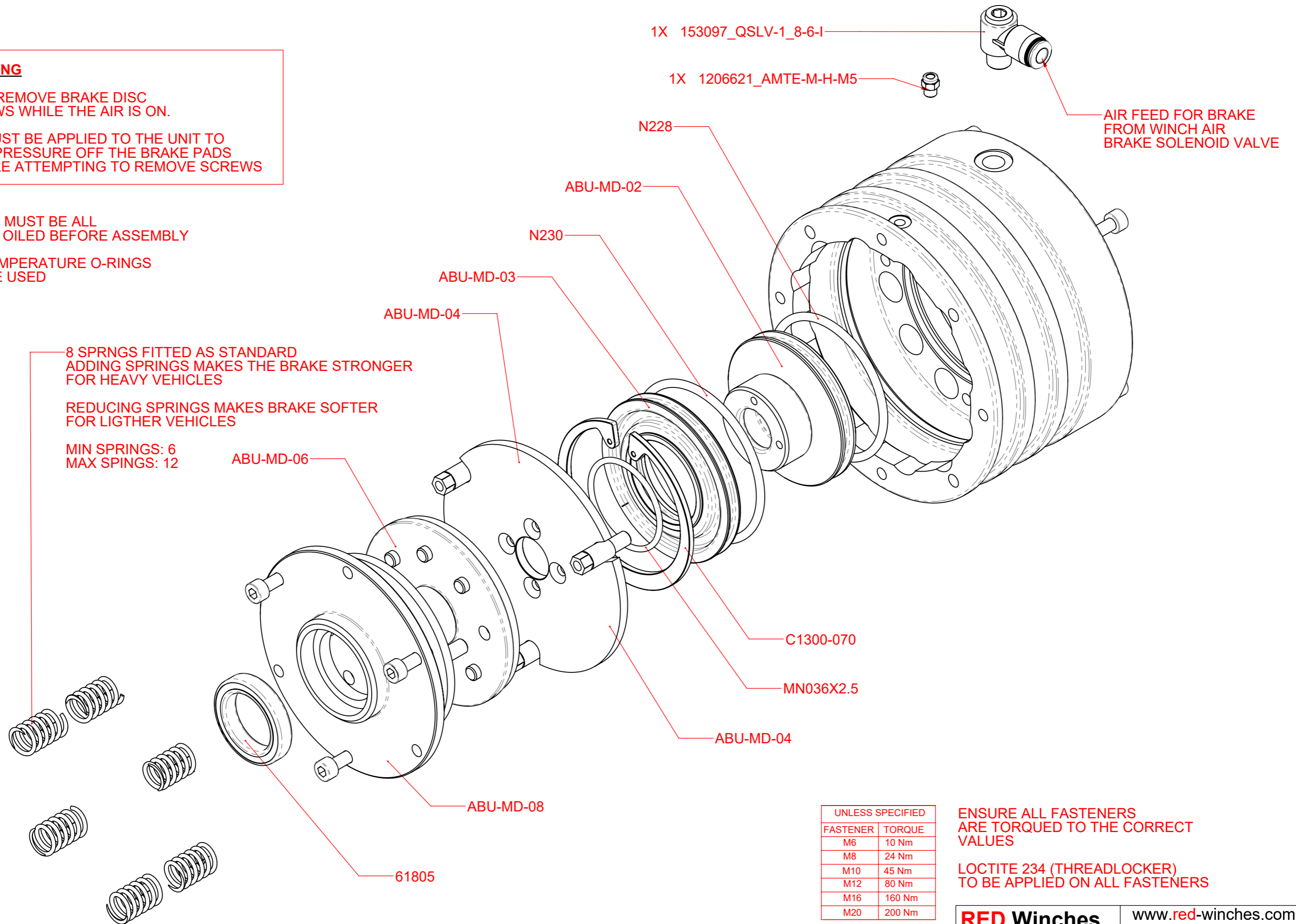
O-RINGS MUST BE ALL LIGHTLY OILED BEFORE ASSEMBLY

HIGH TEMPERATURE O-RINGS MUST BE USED

8 SPRINGS FITTED AS STANDARD  
ADDING SPRINGS MAKES THE BRAKE STRONGER FOR HEAVY VEHICLES

REDUCING SPRINGS MAKES BRAKE SOFTER FOR LIGHTER VEHICLES

MIN SPRINGS: 6  
MAX SPRINGS: 12

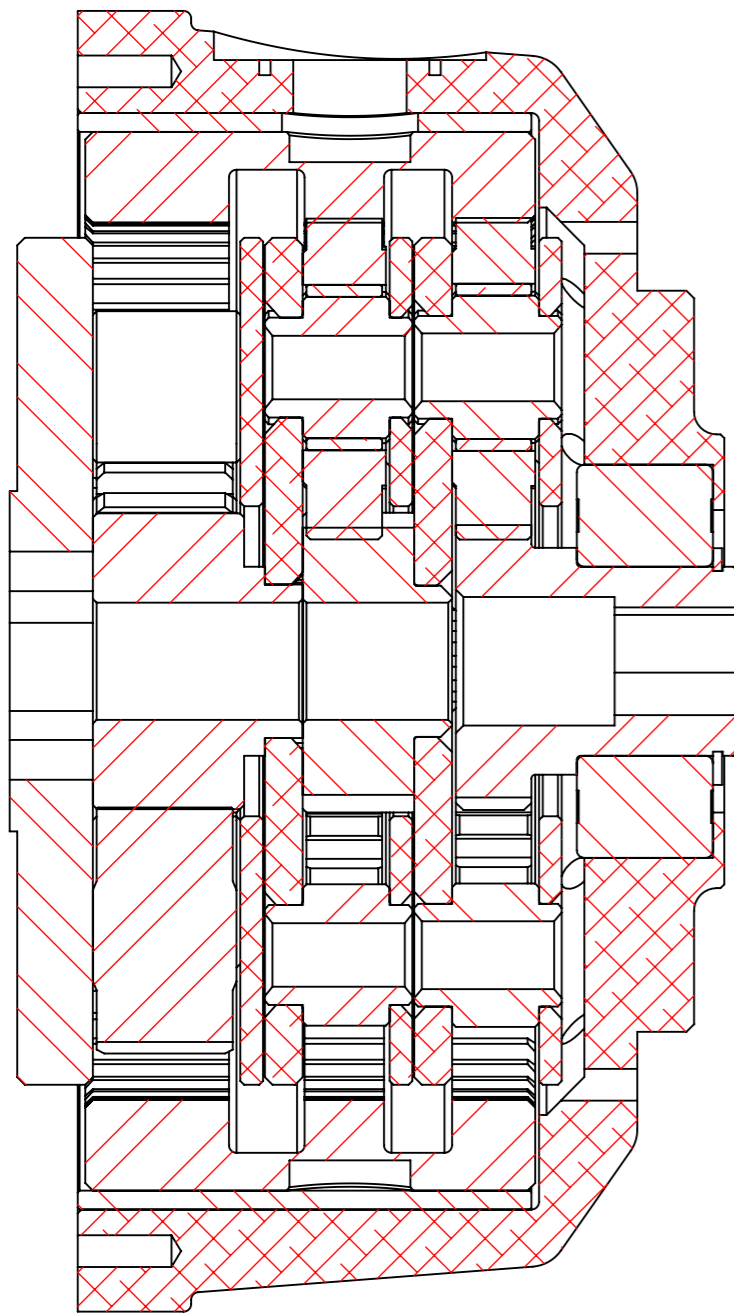


UNLESS SPECIFIED	
FASTENER	TORQUE
M6	10 Nm
M8	24 Nm
M10	45 Nm
M12	80 Nm
M16	160 Nm
M20	200 Nm

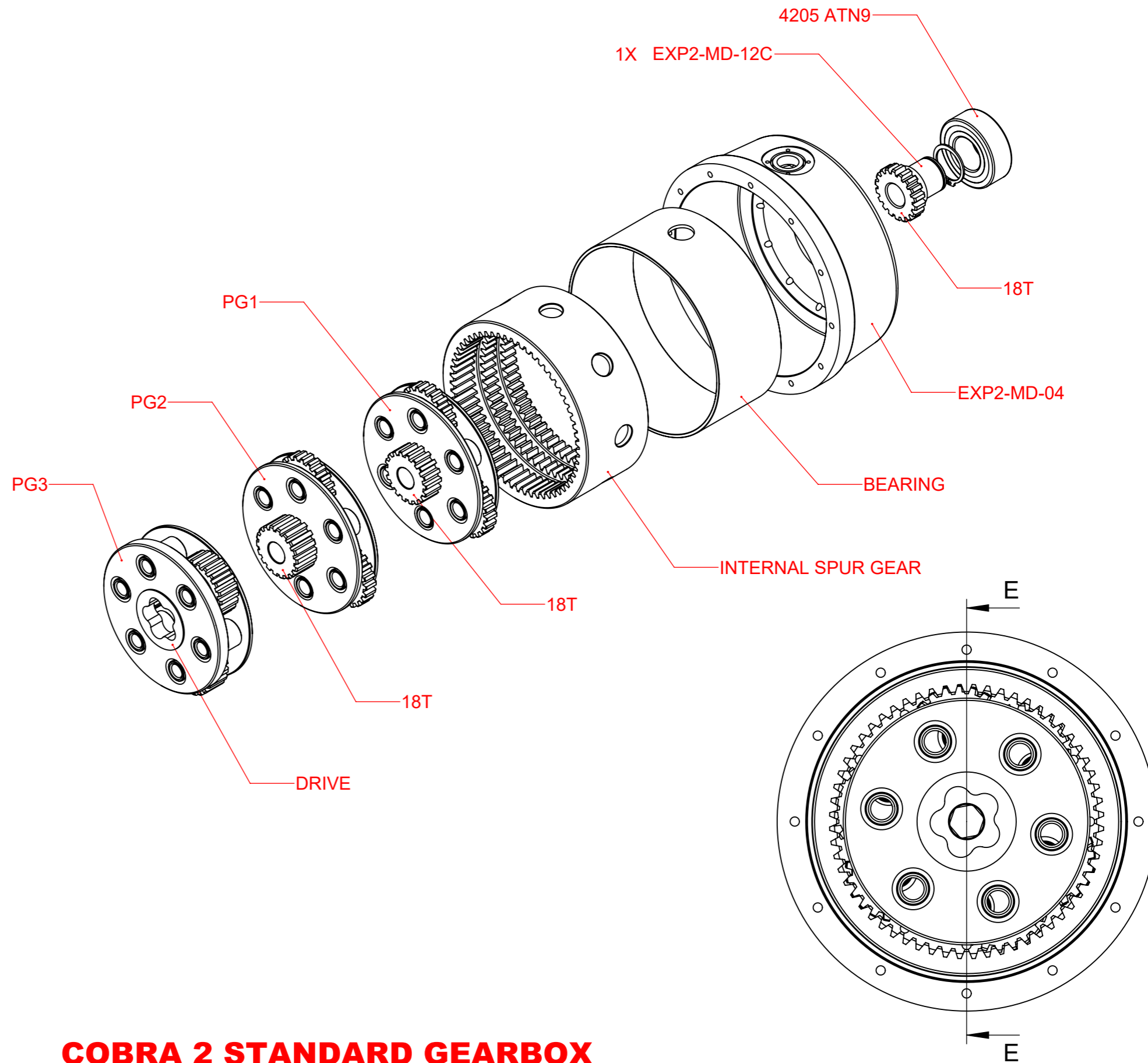
ENSURE ALL FASTENERS ARE TORQUED TO THE CORRECT VALUES

LOCTITE 234 (THREADLOCKER) TO BE APPLIED ON ALL FASTENERS

**RED Winches** [www.red-winch.com](http://www.red-winch.com)  
ULTIMATE PERFORMANCE PRODUCTS



SECTION E-E  
SCALE 1 : 1



## COBRA 2 STANDARD GEARBOX

**TITLE** RED WINCH COBRA 2 STD GEARBOX - TECHNICAL MANUAL

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

<b>RED Winches</b>		www.red-winches.com	
		ULTIMATE PERFORMANCE PRODUCTS	
DRAWING NUMBER:	OVERDRIVE GEARBOX DIAGRAM	SCALE	SHT 11
		1:2	OF 11
Drawing not to be reproduced or distributed in any format or method without specific permission from Redstart/Design.			