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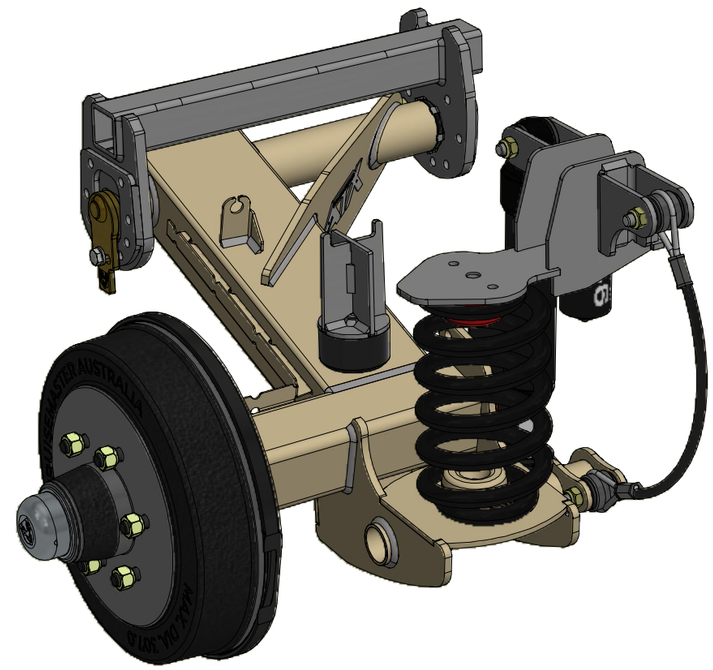
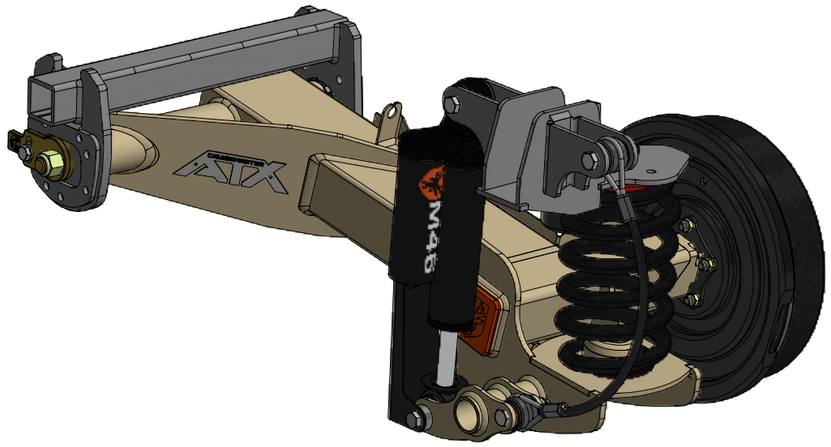
CHASSIS PREPARATION AND SUSPENSION INSTALLATION GUIDE

2. CHASSIS TO FACE
3. GENERAL LAYOUT
4. WELDING
5. ASSEMBLY
6. ALIGNMENT
7. PARTS LIST
8. KIT CONFIGURATIONS





REV	DESCRIPTION	ECN	NAME	DATE
11	Added note for shock absorber crossmember size	2096	LL	27/02/2023
10	Added full length hinge welding spec, clarified C-F measurement	1775	AB	24/10/2019
9	33S-707 was 33S-8019	1766	AB	7/08/2019
8	Fixed welding representation	-	AB	21/06/2019

CM ATX INSTALLATION GUIDE — TITLE

33ATX — DRAWING NUMBER

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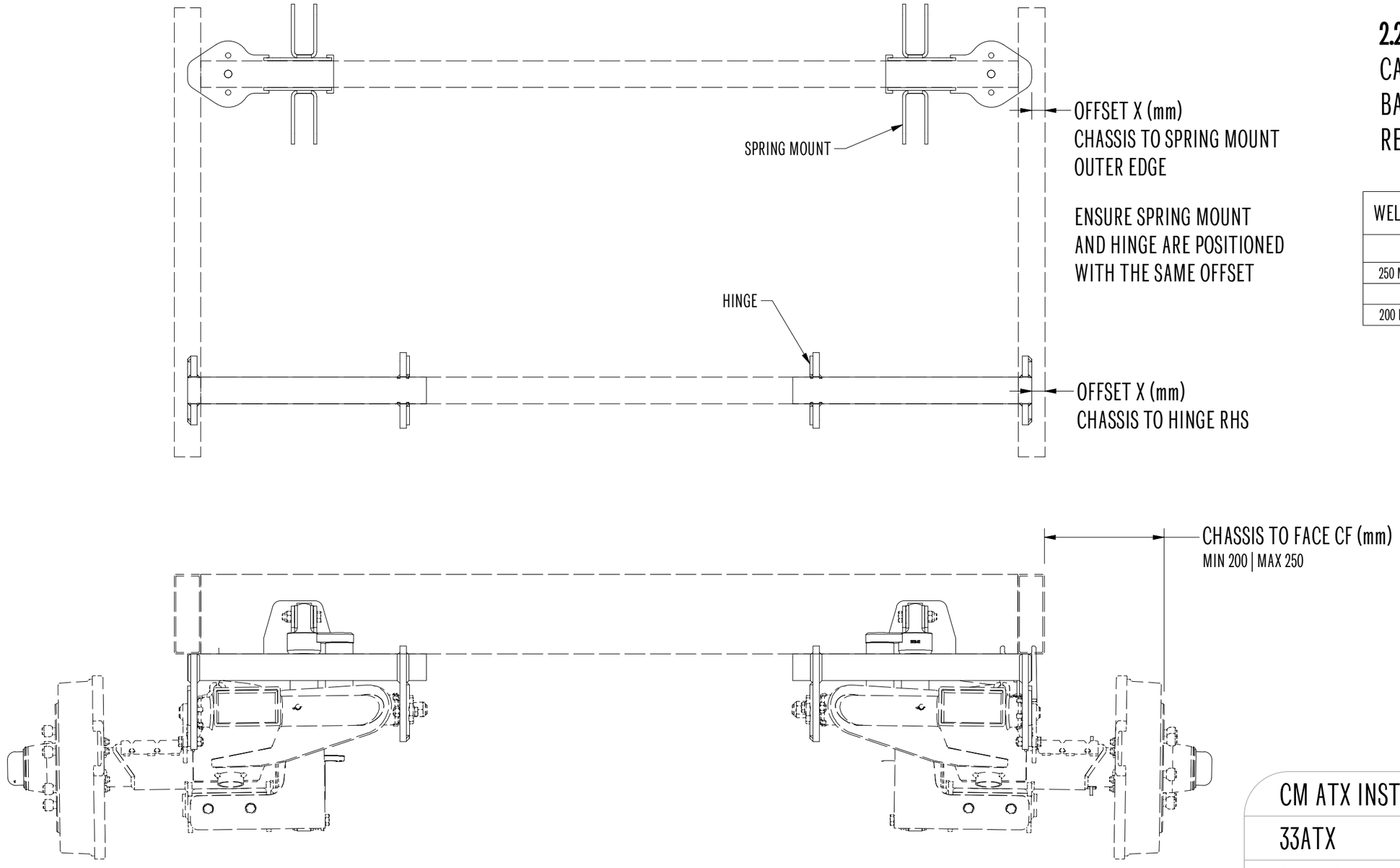
2 - CHASSIS TO FACE



NOTES

2.1 FOR A CHASSIS TO FACE CF SMALLER THAN 250mm THE SPRING MOUNT AND HINGE NEED TO BE OFFSET X (mm) FROM THE OUTSIDE OF THE CHASSIS

2.2 USE THE TABLE BELOW TO CALCULATE THE OFFSET X (mm) BASED ON CHASSIS TO FACE CF REQUIRED

WELD ON POSITION FROM OUTER CHASSIS WALL (mm)		
CF	X (ELECTRIC) = 250 - CF	X (DISC) = 250 - CF
250 MAX C/F	0	7
225	25	32
200 MIN C/F	50	57

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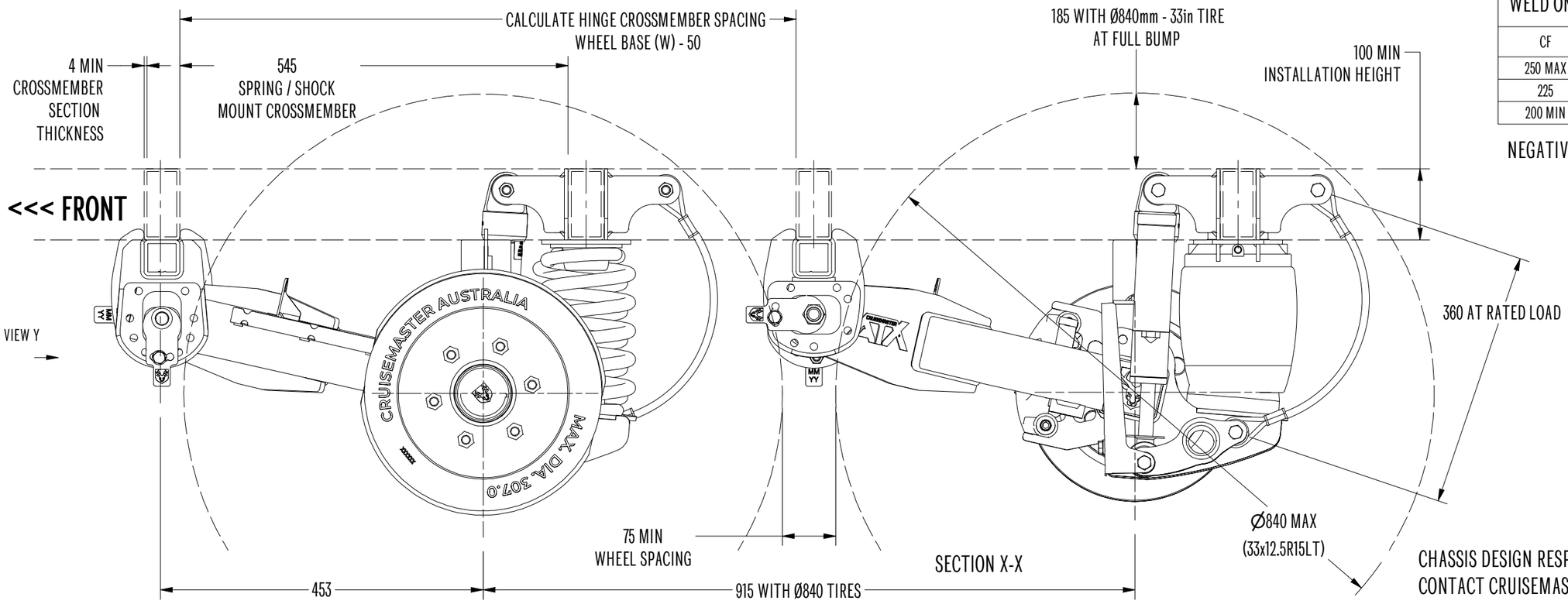
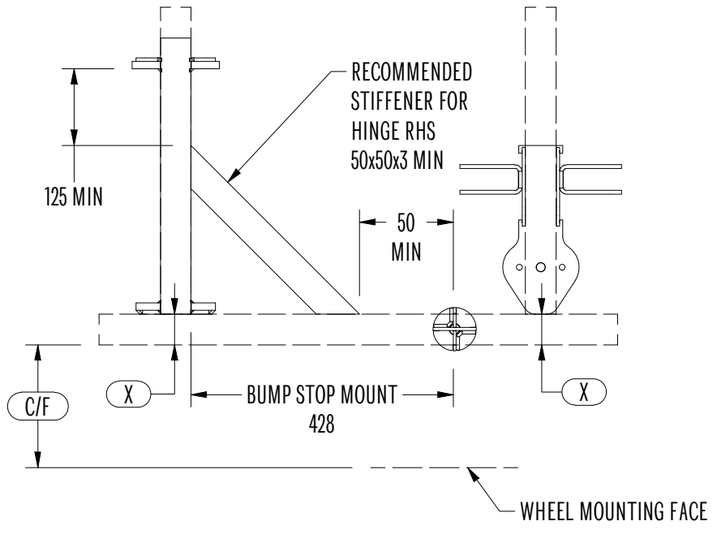
3 - GENERAL LAYOUT

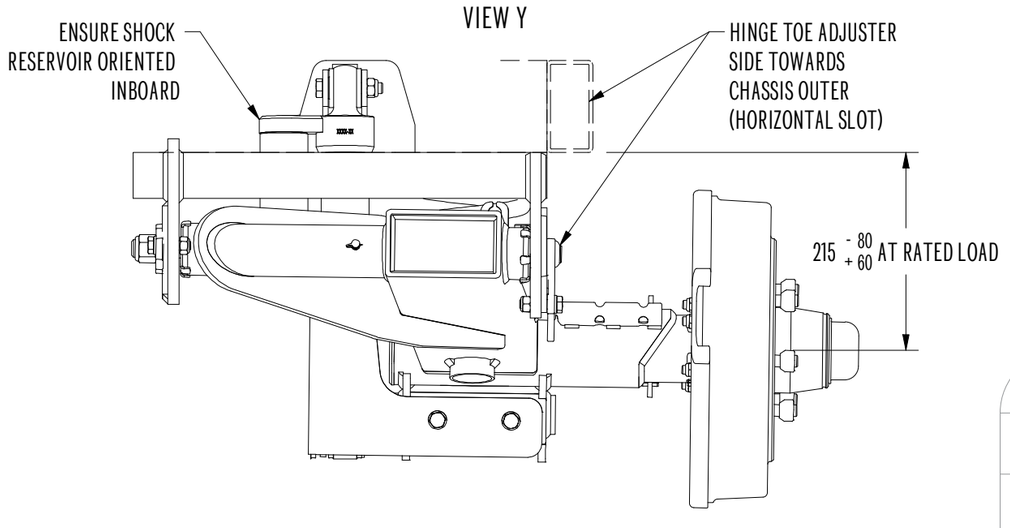


WELD ON POSITION FROM OUTER CHASSIS WALL (mm)		
CF	X (ELECTRIC) = 250 - CF	X (DISC) = 250 - CF
250 MAX	0	7
225	25	32
200 MIN	50	57

NEGATIVE WHEEL OFFSET NOT ALLOWED



DETAIL Z



CHASSIS DESIGN RESPONSIBILITY LIES WITH MANUFACTURER. CONTACT CRUISEMASTER ENGINEERING FOR DESIGN ADVICE

NOTE FOR TANDEM AXLES

THIS IS A CLOSE COUPLED, NON-LOAD SHARING SUSPENSION. ENSURE THAT THE LOAD ON THE AXLE GROUP DOES NOT EXCEED THE REQUIREMENTS OF THE NATIONAL CODE OF PRACTICE (VSB 1 - BUILDING SMALL TRAILERS)

LUBRICATION

GREASE BORE AND FLANGE OF POLYURETHANE BUSHES DURING INSTALLATION AND REGULARILY DURING SERVICE USING AUTOMOTIVE BEARING GREASE. INJECT THROUGH GREASE NIPPLE UNTIL GREASE STARTS COMING OUT BETWEEN HINGE AND BUSH.

CM ATX INSTALLATION GUIDE — TITLE

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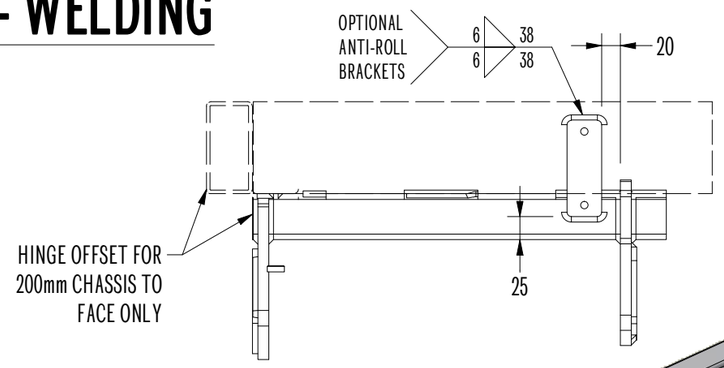
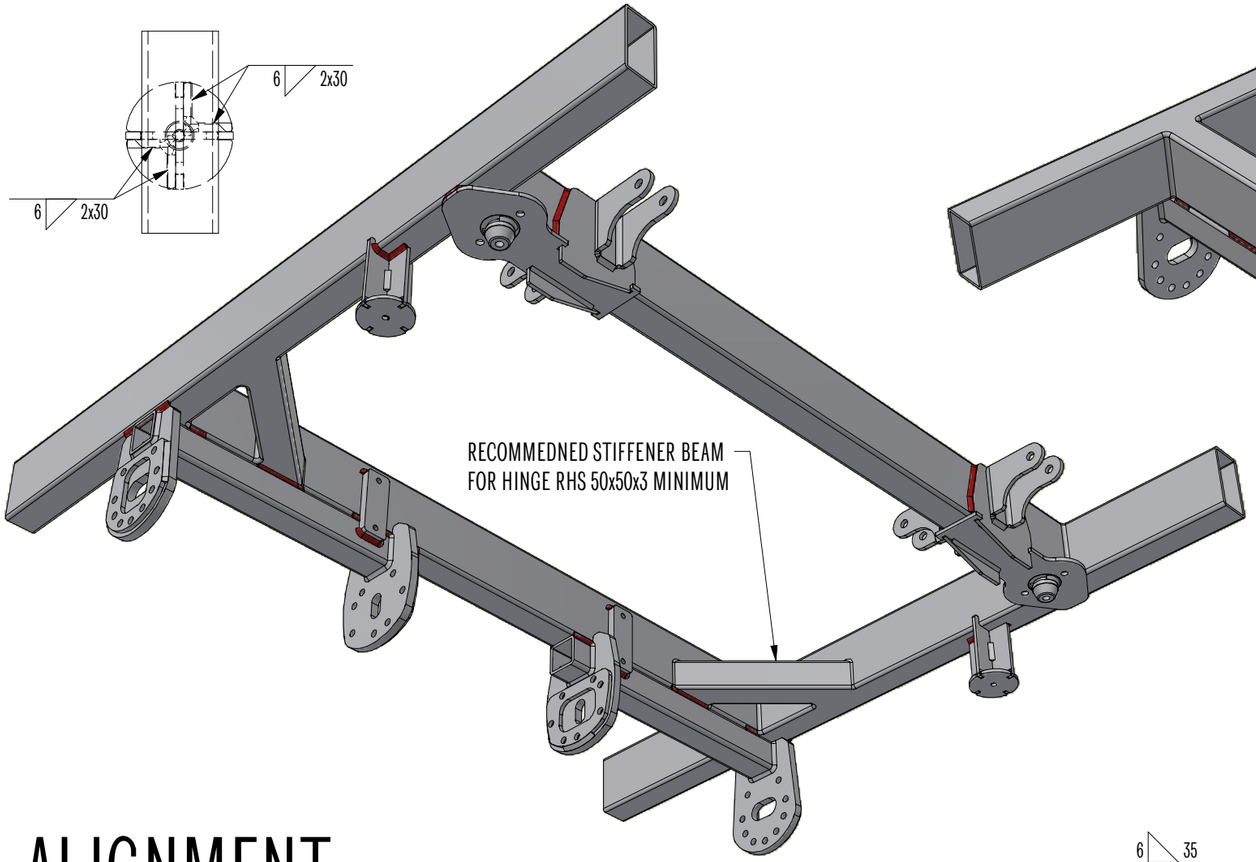
4 - WELDING

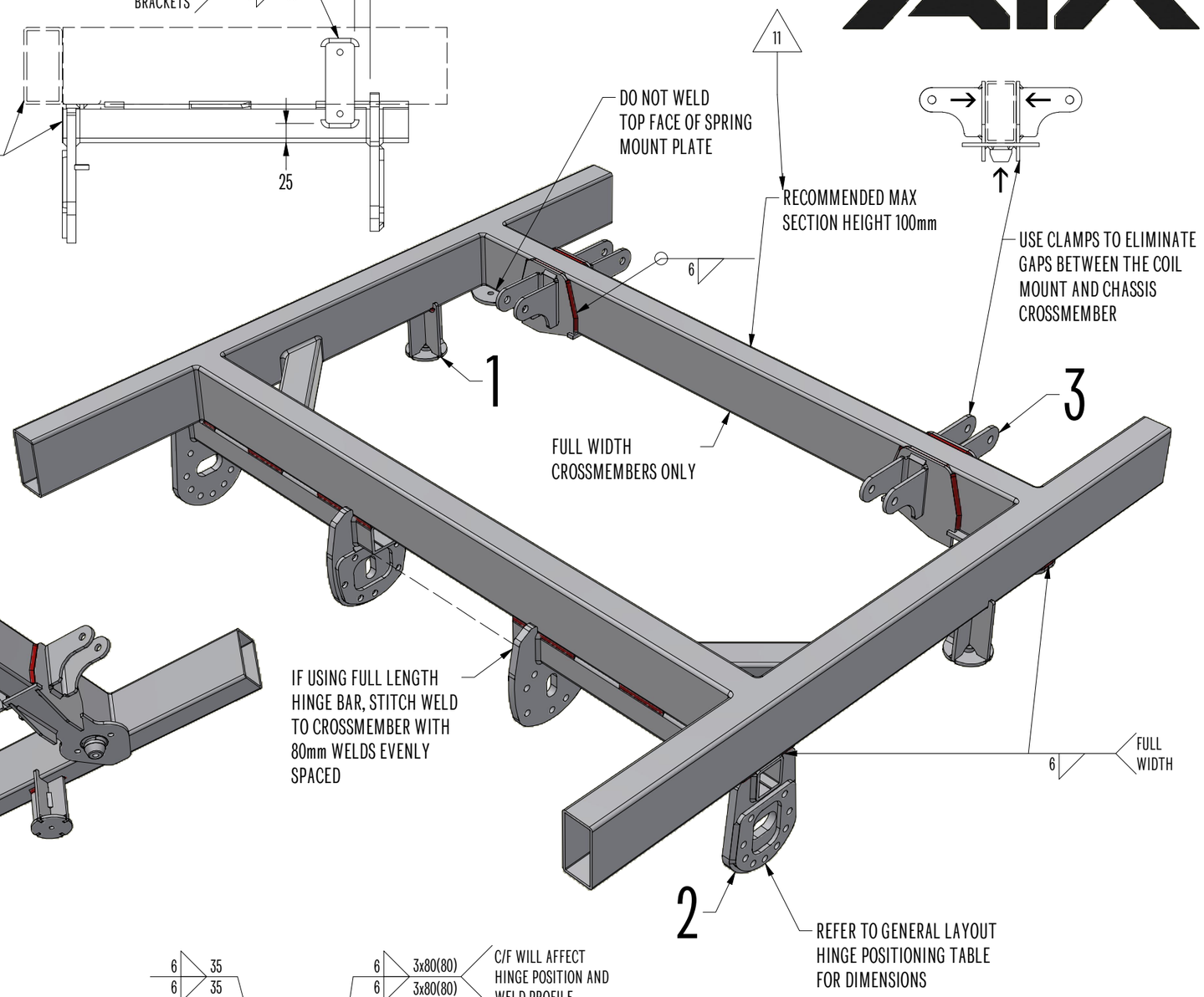
CRUISEMASTER ATX

ALL CHASSIS RAILS AND SUPPORTING CROSSMEMBER SECTIONS MUST BE OF SUFFICIENT STRENGTH TO SUPPORT THE TRAILER AT MAXIMUM LOAD

ENSURE HINGES ARE PERPENDICULAR TO THE CHASSIS TO ALLOW FOR CORRECT WHEEL ALIGNMENT AND ADJUSTMENT







1. ALIGNMENT

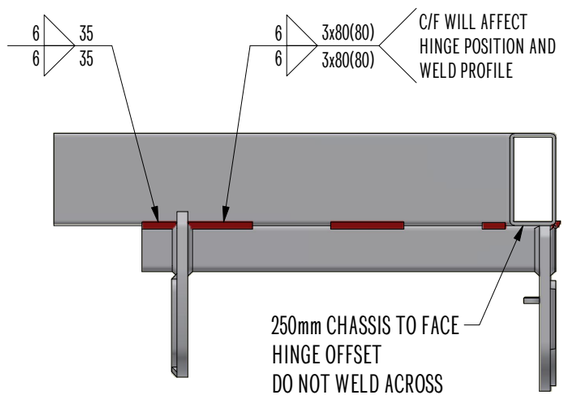
ENSURE ALL REQUIRED CROSSMEMBERS AND BRACINGS ARE FITTED, POSITION HINGE, BUMP STOP AND SHOCK/COIL MOUNT
ENSURE HINGES ARE SQUARE TO MAIN CHASSIS RAIL AND CROSSMEMBER

2. HINGES

WELD HINGES TO CROSSMEMBERS AS SPECIFIED

3. SHOCK AND COIL MOUNTS

ENSURE SHOCK AND COIL MOUNTS ARE FITTED AS SHOWN



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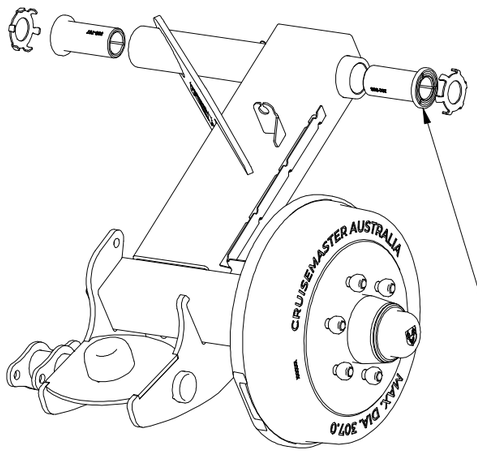
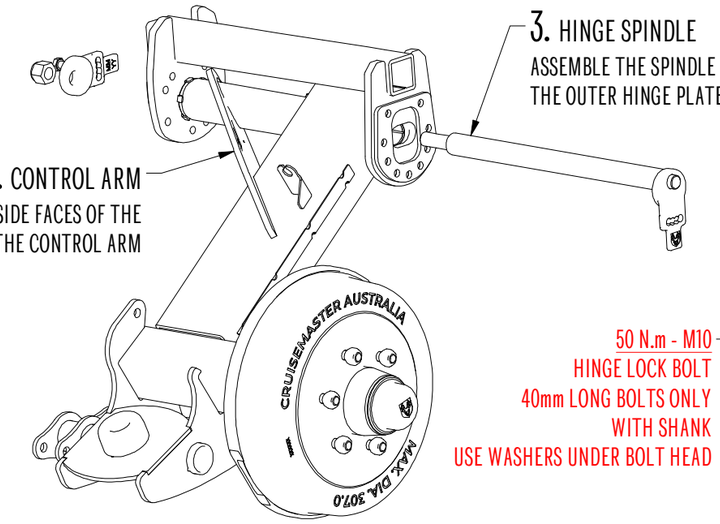
5 - ASSEMBLY



1. BUSHES

GREASE AND ASSEMBLE BUSHES AND WASHERS TO CONTROL ARM



2. CONTROL ARM

LIGHTLY GREASE THE INSIDE FACES OF THE HINGE PLATES AND FIT THE CONTROL ARM

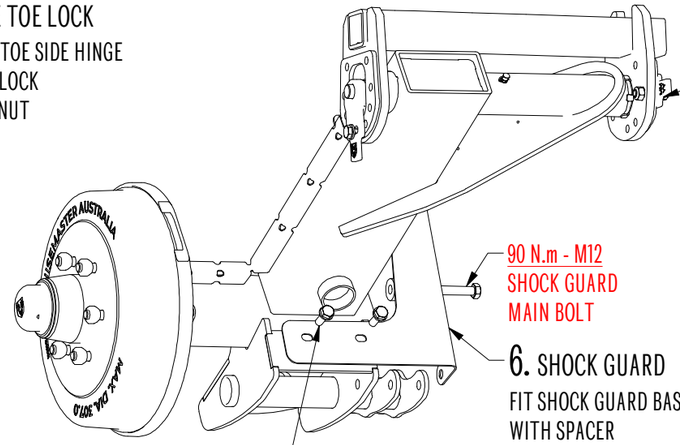
3. HINGE SPINDLE

ASSEMBLE THE SPINDLE FROM THE OUTER HINGE PLATE

4. HINGE TOE LOCK

ASSEMBLE TOE SIDE HINGE ADJUSTER LOCK BOLT AND NUT

50 N.m - M10
HINGE LOCK BOLT
40mm LONG BOLTS ONLY
WITH SHANK
USE WASHERS UNDER BOLT HEAD



190 N.m - 3/4UNF
HINGE NUT

90 N.m - M12
SHOCK GUARD
MAIN BOLT

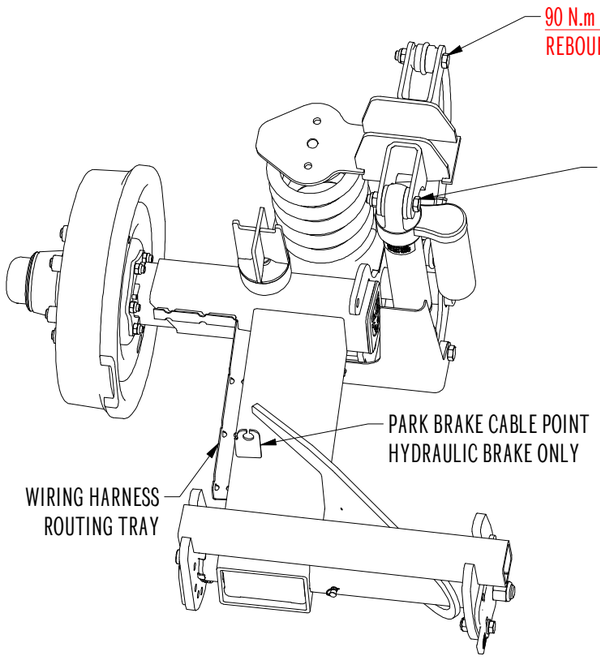
6. SHOCK GUARD

FIT SHOCK GUARD BASH PLATE WITH SPACER

50 N.m - M10
SHOCK GUARD
PLATE BOLTS

11. TORQUE AND GREASE

- REFER TO WHEEL ALIGNMENT FOR ADJUSTER POSITIONING
- ONCE HINGE IS ASSEMBLED TORQUE ALL BOLTS AS SPECIFIED
- USE GREASE NIPPLE TO FILL HINGE CAVITY (GREASE SHOULD SQUEEZE FROM BUSHES)
- USE PROVIDED CABLE TRAY TO ROUTE WIRING

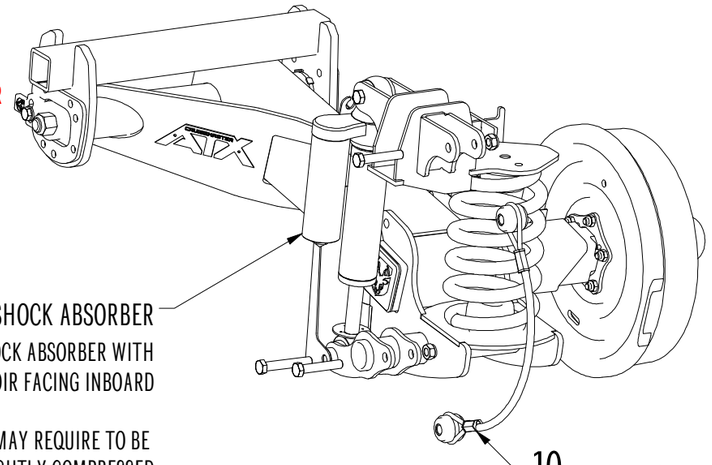


90 N.m - M12
REBOUND CABLE BOLTS

90 N.m - M12
SHOCK ABSORBER BOLTS

PARK BRAKE CABLE POINT
HYDRAULIC BRAKE ONLY

WIRING HARNESS ROUTING TRAY



9. SHOCK ABSORBER

FIT SHOCK ABSORBER WITH RESERVOIR FACING INBOARD

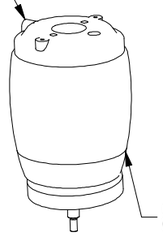
SPRING MAY REQUIRE TO BE SLIGHTLY COMPRESSED

10. REBOUND CABLE

REFER TO **TECHNICAL BULLETIN 130** FOR DETAILED REBOUND CABLE INSTALLATION INSTRUCTIONS

ASSEMBLE AIRBAGS WITH PORT FACING INBOARD

16 N.m - 3/8UNC
AIR SPRING
TOP BOLTS

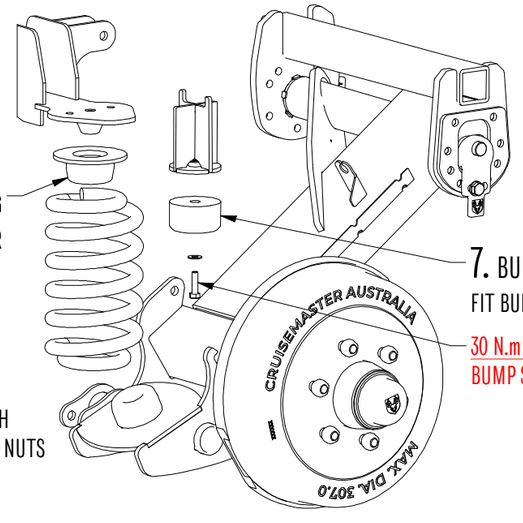


8A. COIL SPRING
FIT LOCATOR

OR

8B. AIR SPRING
FIT AIRSPRING WITH SPACER BOLTS AND NUTS

16 N.m - 3/8UNC
AIR SPRING
BOTTOM NUT



7. BUMP STOP
FIT BUMP STOP

30 N.m - M8
BUMP STOP BOLT

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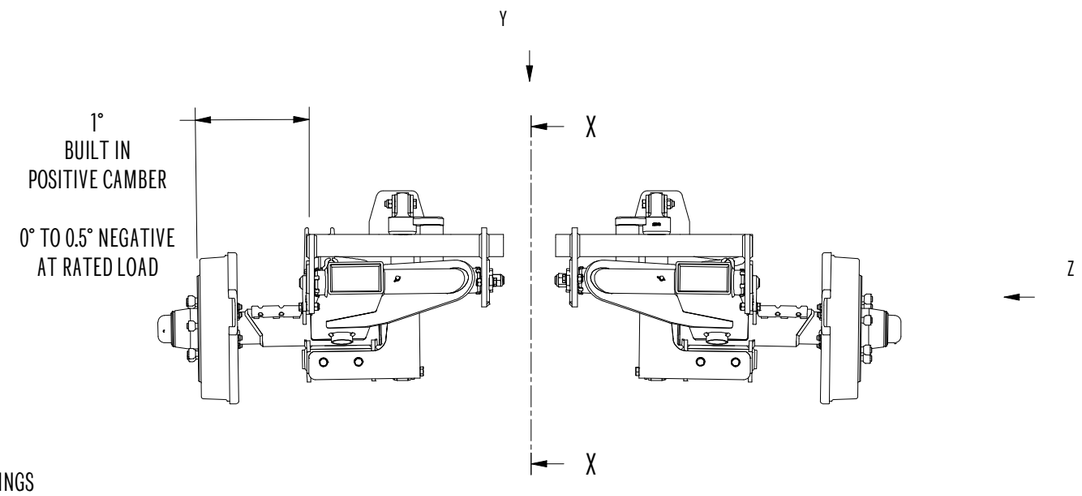
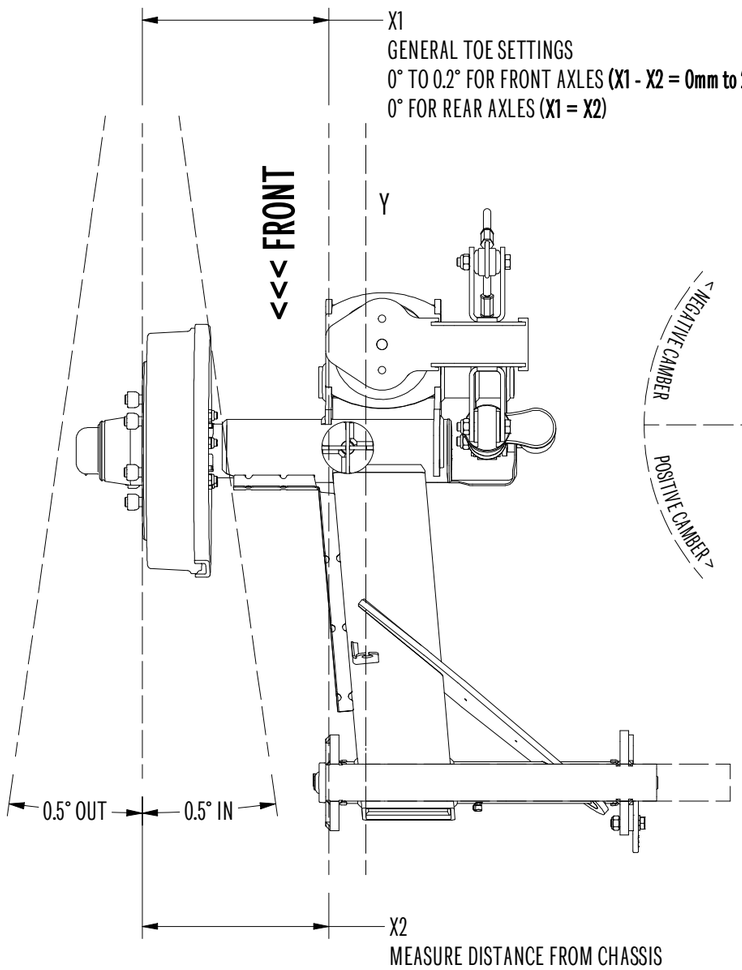
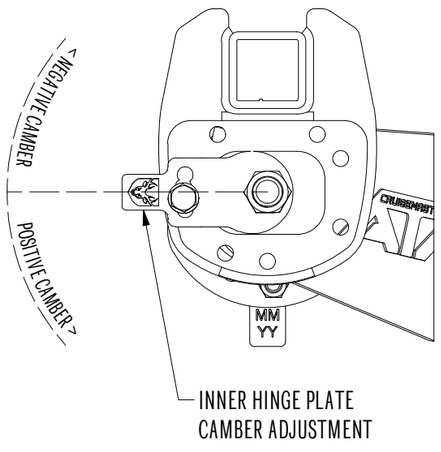
6 - ALIGNMENT

VISIT cruisemaster.com.au FOR ADDITIONAL INFORMATION
SEE CRUSIEMASTER CAMBER TOW IN ADJUSTER (CIS 20)

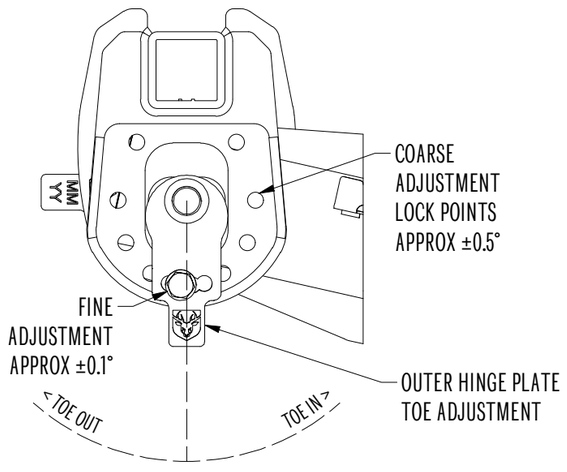
CAMBER ADJUSTMENT
THE SUSPENSION HAS A DEGREE OF POSITIVE CAMBER BUILT IN TO ENSURE THE WHEELS ARE ALIGNED CORRECTLY UNDER LOAD. WHEELS ARE RECOMMENDED TO HAVE 0° TO 0.5° NEGATIVE CAMBER AT RATED LOAD.







SECTION X-X



WHEEL ALIGNMENT PROCEDURE

1. ENSURE THE TRAILER IS FULLY LOADED AND ON A FLAT SURFACE, MOVE THE TRAILER BACKWARDS AND FORWARDS TO ELIMINATE ANY TWIST IN THE WHEELS.

MEASUREMENT

2. PLACE A STRAIGHT EDGE ACROSS THE WHEEL, EDGE OF RIM OR DRUM FACE THEN MEASURE THE DISTANCE FROM THE STRAIGHT EDGE TO THE CHASSIS RAIL. (WHEELS ON A SINGLE OR TANDEM FRONT AXLE SHOULD BE ADJUSTED TO HAVE 2MM TOE-IN. WHEELS ON TANDEM REAR AXLE SHOULD MEASURE PARALLEL FROM THE CHASSIS RAIL.)

3. FOR CAMBER ADJUSTMENT IT IS RECOMMENDED TO USE A DIGITAL SPIRIT LEVEL TO MEASURE ACROSS THE WHEEL RIM OR DRUM FACE.

ADJUSTMENT

4. LIFT THE VEHICLE TO UNLOAD THE SUSPENSION. DO NOT CLIMB UNDER A VEHICLE WHICH IS ONLY SUPPORTED BY JACKS, ENSURE PROPER VEHICLE STANDS ARE USED.

5. LOOSEN THE HINGE NUT AND REMOVE THE ADJUSTER LOCKING BOLTS.

6. TURN THE ADJUSTER IN THE DIRECTION REQUIRED AND ALIGN WITH THE NEAREST BOLT HOLES. USE BOTH COARSE AND FINE ADJUSTMENTS TO FIND THE OPTIMAL POSITION AND USE LOCKING BOLTS TO HOLD THE ADJUSTER IN PLACE.

6. LOWER THE VEHICLE TO FULLY LOAD THE SUSPENSION AND MEASURE THE ALIGNMENT AGAIN TO CHECK ADJUSTMENT IS SATISFACTORY.

7. IF THE NECCESARY ALIGNMENT HAS NOT BE ACHIEVED, REPEAT FROM STEP 4

8. WHEN ADJUSTMENT IS COMPLETED, TORQUE ADJUSTMENT LOCKING BOLTS AND HINGE NUT. (SEE ASSEMBLY SHEET FOR TORQUES)

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7 - PARTS LIST

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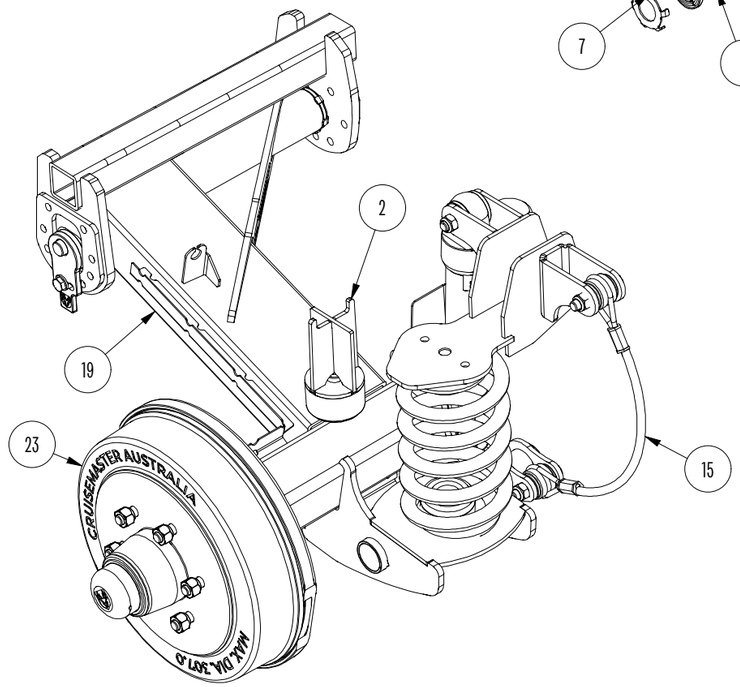

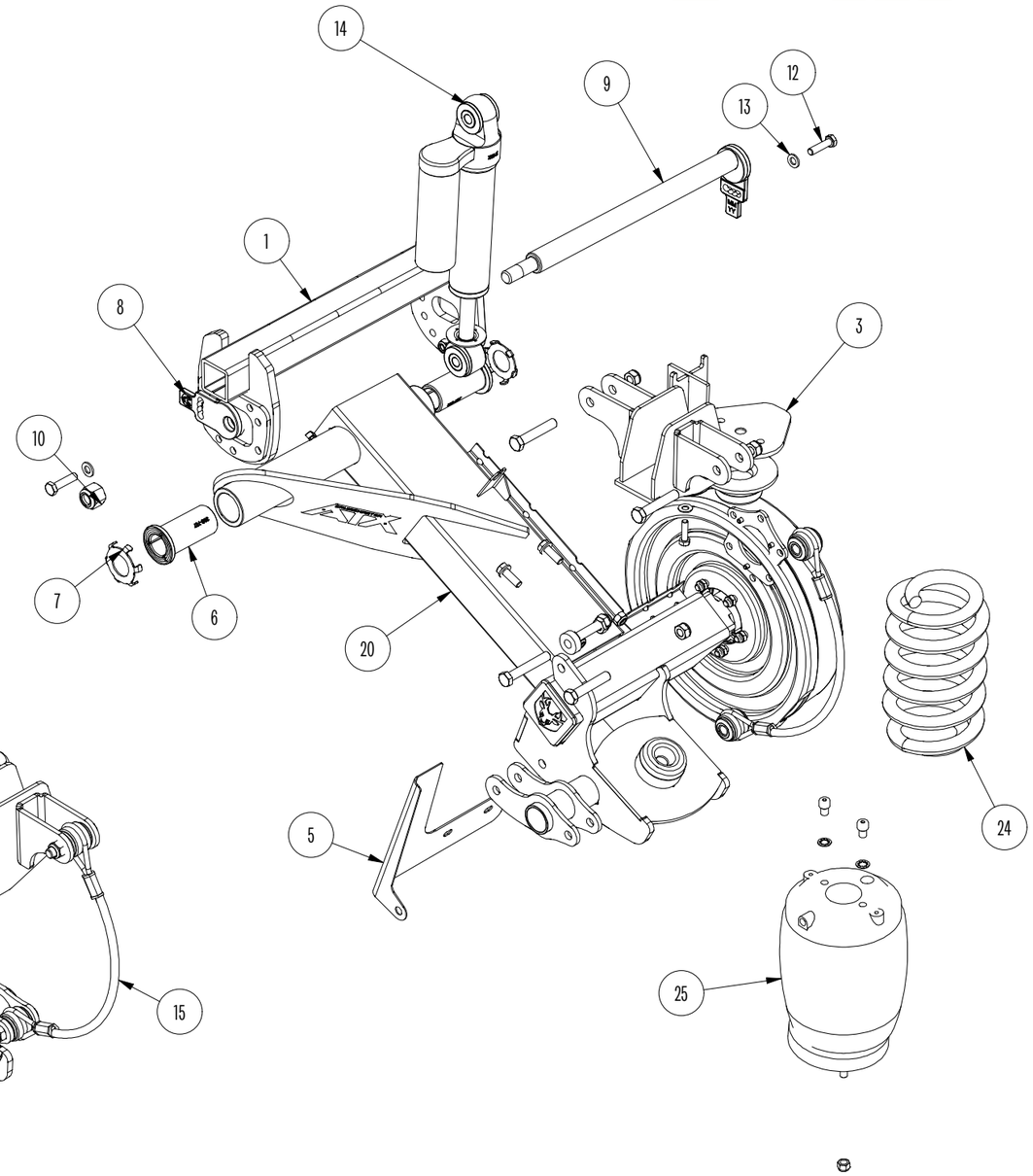

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	33S-8200	ATX HINGE
2	2	33S-8410	ATX BUMP STOP MOUNT
3	2	33S-8400	ATX SPRING MOUNT
4	2	33S-8056	ATX BADGE
5	1	33C 022	CM ATX SHOCK GUARD KIT
6	4	33S-707	CM HINGE BUSH D
7	4	33S-8042	HINGE SLIDE WASHER
8	2	33S-8310.1	ATX LOCKABLE ADJUSTER
9	2	33S-8300	ATX HINGE SPINDLE
10	2	60-N-3/4-UNF-NYL	NUT 3/4 UNF NYLOC
11	4	60-N-M10NYL	NUT ZINC NYLON INSERT M10
12	4	60-B-M10x40	BOLT HEX 8.8 M10x40 Z/P
13	4	60-WF-M10	WASHER FLAT M10 Z/P
14	1	33C 018	M46 BLACK 46mm SINGLE SHOCK KIT
15	1	33C 017	CM ATX RB STRAP KIT
16	1	33C 021	CM ATX BUMP STOP KIT
17	2	60-M-GN-COV	GREASE NIPPLE DUST COVER
18	2	60-M-GN-M6	GREASE NIPPLE M6
19	1	33S-8810L	CM ATX VC EL LEFT
20	1	33S-8810R	CM ATX VC EL RIGHT
21	2	33S-220	PLASTIC END CAP 75
22	1	19-3069-DEXT	BR/KIT 12EL DEXTER
23	2	03-12VC-93-LC6-1/2	H/DRUM 12" VC 93 FITTED LC6 1/2
24	1	33ATX-CC	CM ATX COIL SPRING KIT
25	1	33ATX-AK	CM ATX AIR SPRING KIT

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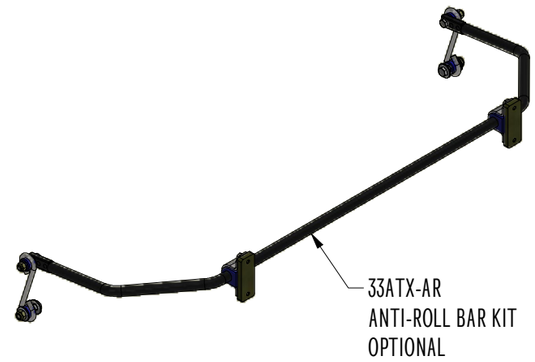
8 - KIT CONFIGURATIONS

PART NUMBER BUILD GUIDE

CONFIGURE SUSPENSION KITS FOR SIMPLER ORDERING

(A) SPRING			
AXLES	RATING - ATM (kg)	(A)	SPRING
SINGLE	2200	CS22	33SC-474A
SINGLE	2600	CS26	33SC-530A
SINGLE	2800	CS28	33SC-590A
SINGLE	2800	AS28	33SA-AB0044-V
TANDEM	3700	CT37	33SC-390A
TANDEM	4500	CT45	33SC-474A
TANDEM	4500	AT45	33SA-AB0044-V

(B) HUB SPIGOT		
OPTION	WHEEL SPIGOT (mm)	(B)
DRUM	93	VC93
DRUM	106	VC106
DRUM	110	VC110
HUB	102	DVC102
HUB	110	DVC110

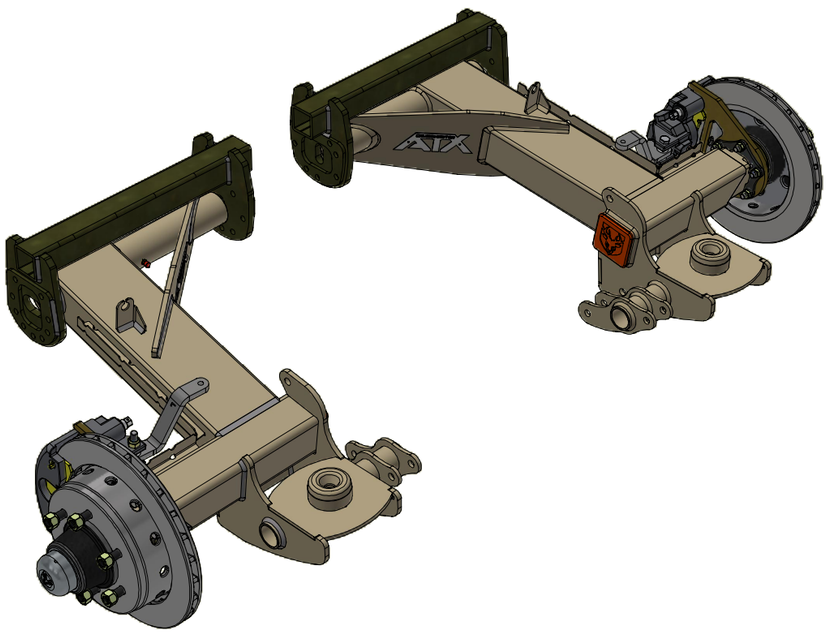


33ATX - □□□□ - □□□□□□ - □ - □ - HS - S6000

A B E F

(D) FINISH . COLOR	
(D)	OPTION
U	UNPAINTED
P	PREMIUM POWDERCOATING

(D) BRAKE . STUD PATTERN	
(D)	BRAKE
D	ELECTRIC
H	HYDRAULIC



EXAMPLE

33ATX-CS22-VC110-P.DS-D.LC6.HLF-HS-S6000

- SINGLE AXLE
- 2200kg COIL SPRINGS
- VC BEARING
- PREMIUM POWDERCOATING
- ELECTRIC BRAKES
- LANDCRUISER 6 STUD PATTERN - 1/2in STUDS
- MONOTUBE SHOCKS

CM ATX INSTALLATION GUIDE — TITLE

33ATX — DRAWING NUMBER

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED — DO NOT SCALE

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DATE: 4/13/2016
SHEET SIZE: A3

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