

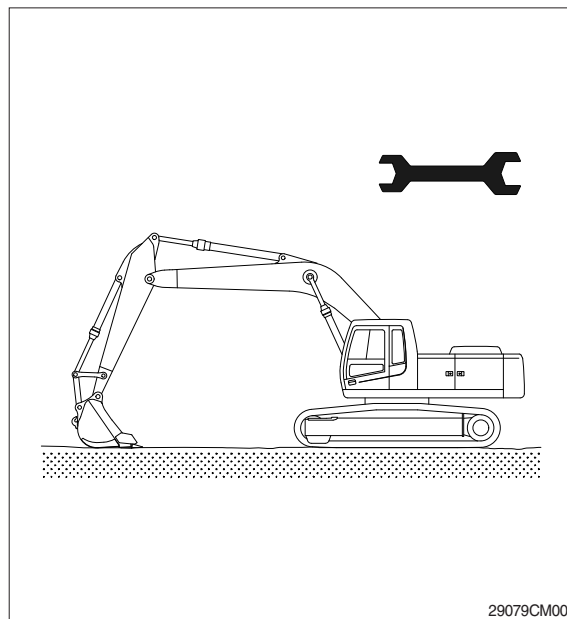
## SECTION 9 COMPONENT MOUNTING TORQUE

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# SECTION 9 COMPONENT MOUNTING TORQUE

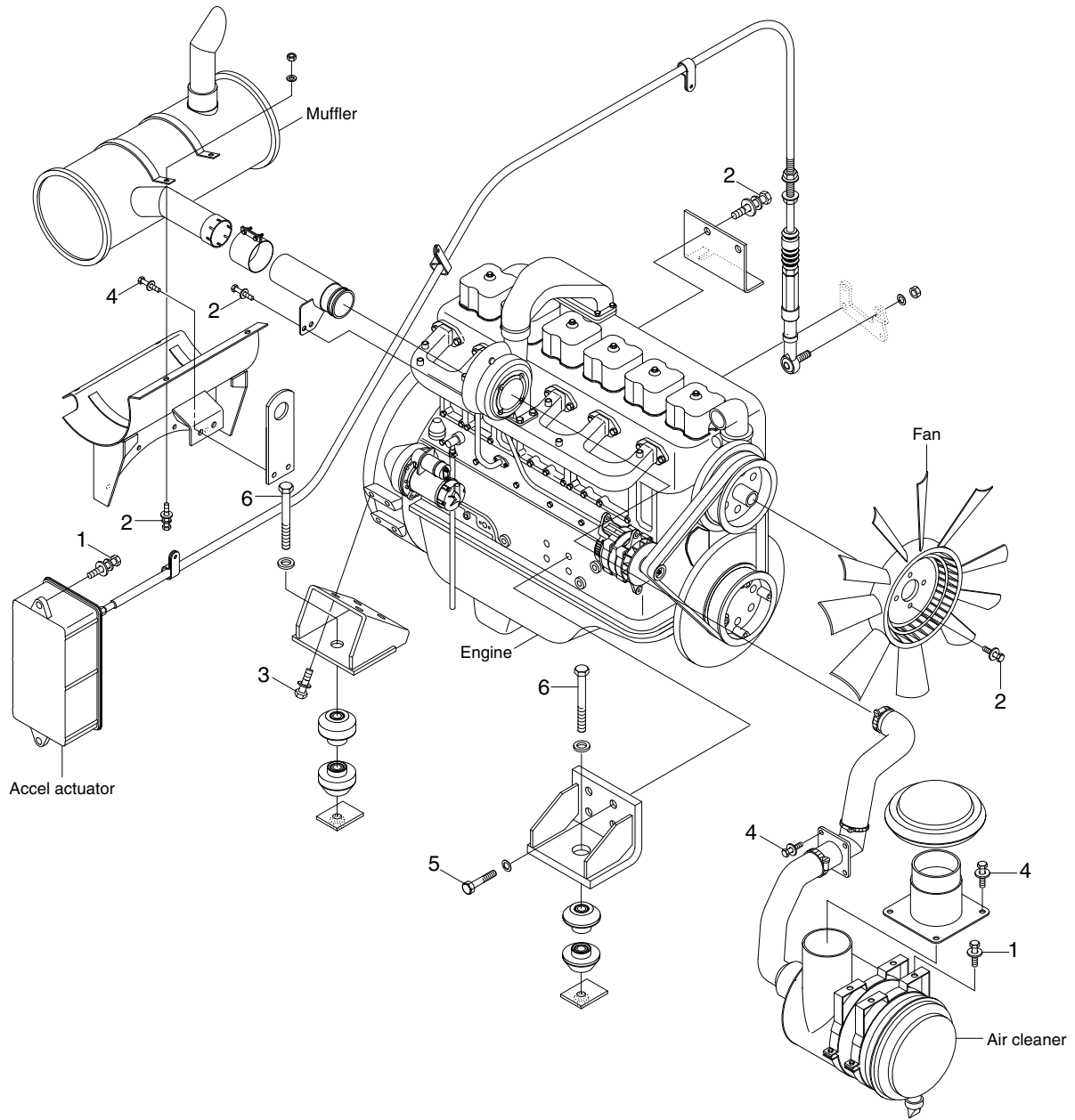
## GROUP 1 INTRODUCTION GUIDE

1. This section shows bolt specifications and standard torque values needed when mounting components to the machine.
  2. Use genuine Hyundai spare parts.  
We expressly point out that Hyundai will not accept any responsibility for defects resulted from non-genuine parts.  
In such cases Hyundai cannot assume liability for any damage.
- ※ Only metric fasteners can be used and incorrect fasteners may result in machine damage or malfunction.
  - ※ Before installation, clean all the components with a non-corrosive cleaner. Bolts and threads must not be worn or damaged.



## GROUP 2 ENGINE SYSTEM

### ENGINE AND ACCESSORIES MOUNTING



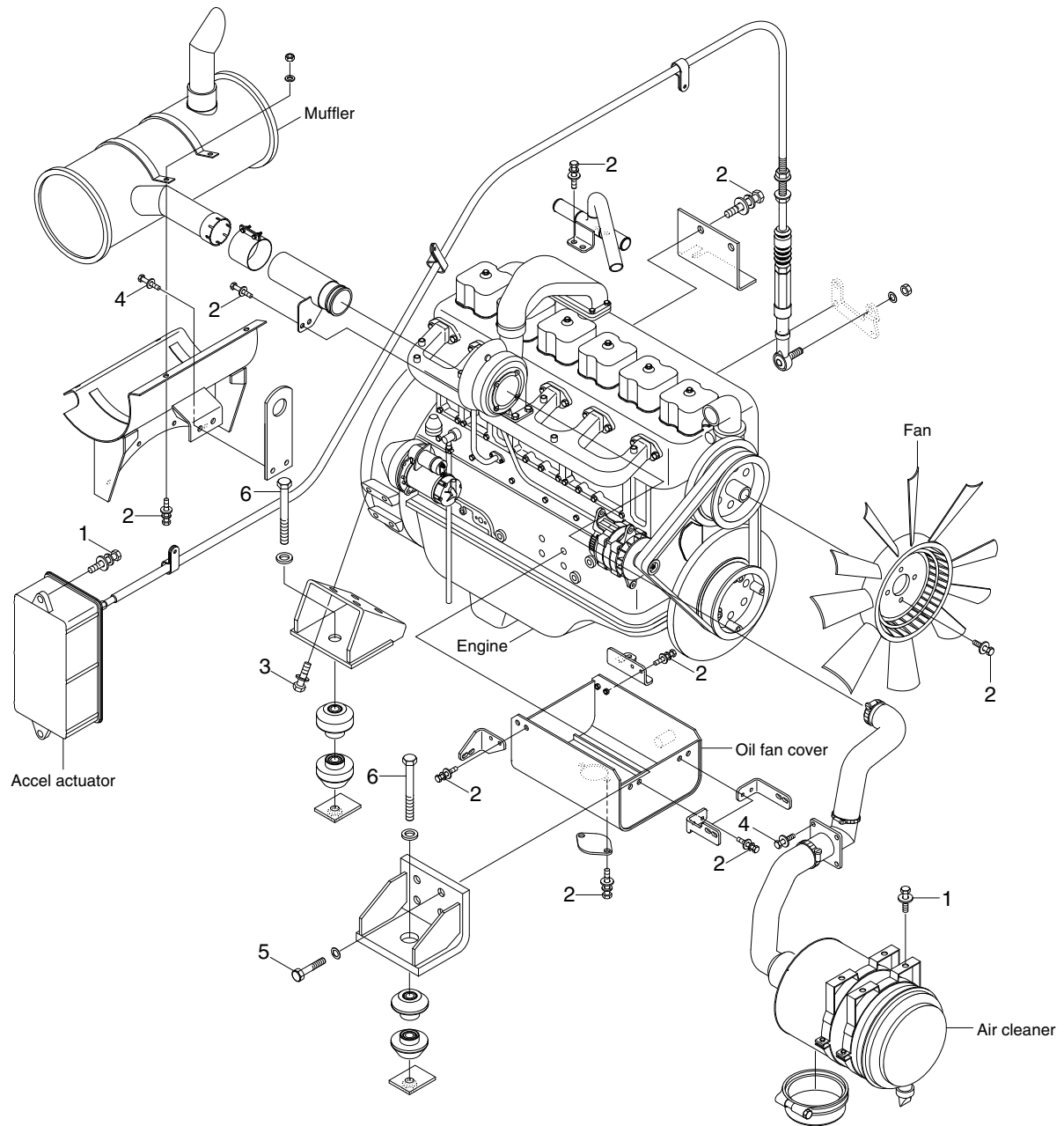
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#### · Tightening torque

Item	Size	kgf · m	lbf · ft
1	M 8×1.25	2.5±0.5	18.1±3.6
2	M10×1.5	6.9±1.4	49.9±10.1
3	M12×1.75	7.5±1.0	54.2±7.2

Item	Size	kgf · m	lbf · ft
4	M12×1.75	12.8±3.0	92.6±21.7
5	M14×2.0	14.5±2.5	105±18.1
6	M22×2.5	48±2.0	347±14.4

# ENGINE AND ACCESSORIES MOUNTING (ARCTIC MACHINE)



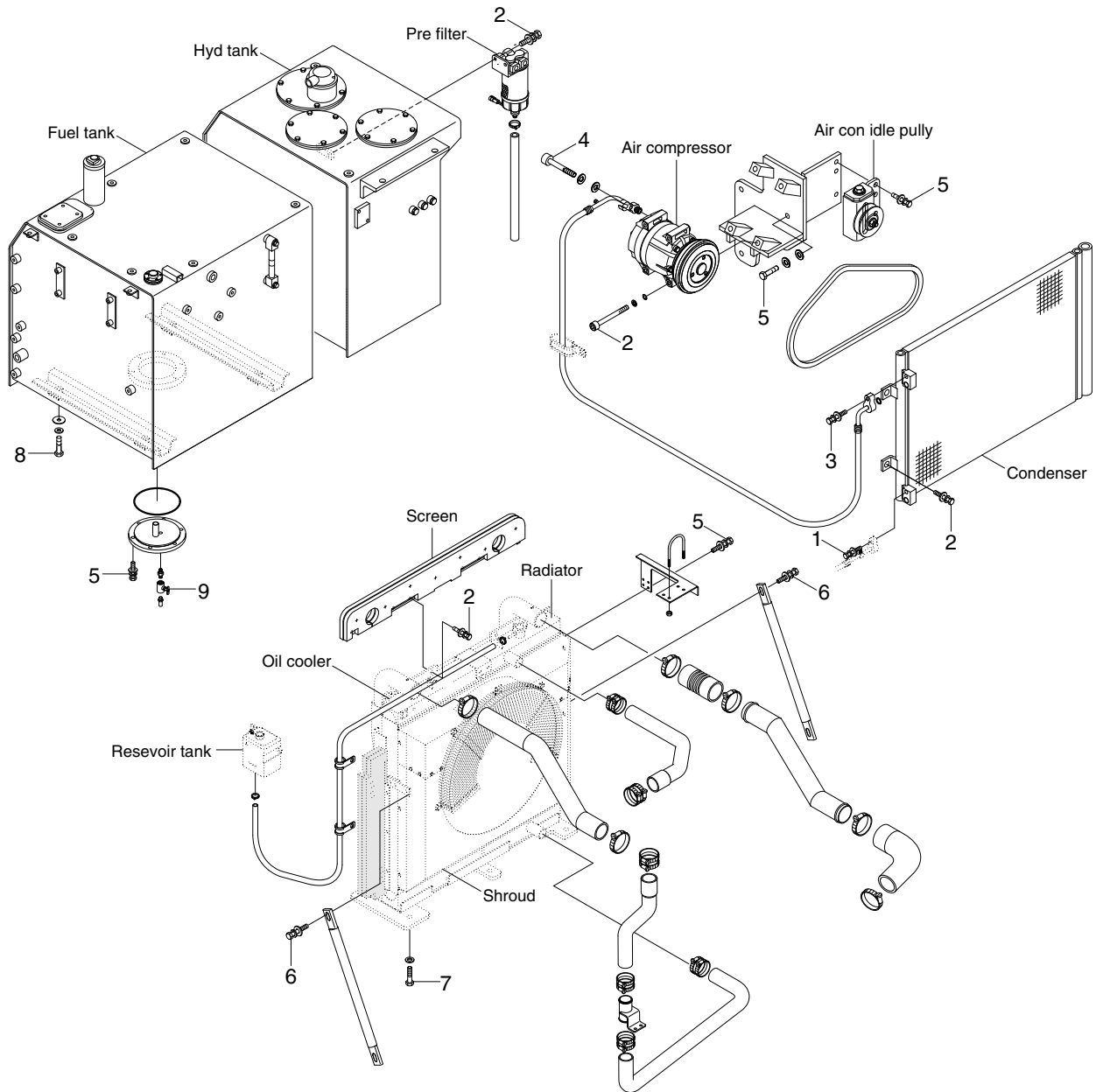
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## · Tightening torque

Item	Size	kgf · m	lbf · ft
1	M 8×1.25	2.5±0.5	18.1±3.6
2	M10×1.5	6.9±1.4	49.9±10.1
3	M12×1.75	7.5±1.0	54.2±7.2

Item	Size	kgf · m	lbf · ft
4	M12×1.75	12.8±3.0	92.6±21.7
5	M14×2.0	14.5±2.5	105±18.1
6	M22×2.5	48±2.0	347±14.4

# COOLING SYSTEM AND FUEL TANK MOUNTING



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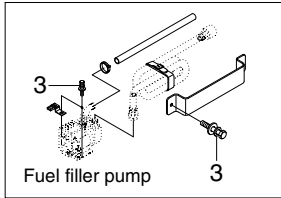
## · Tightening torque

Item	Size	kgf · m	lbf · ft
1	M 6×1.0	0.5±0.2	3.6±1.45
2	M 8×1.25	2.5±0.5	18.1±3.6
3	M 8×1.25	1.3±0.2	9.4±1.45
4	M10×1.25	5.0±0.2	36.1±1.45
5	M10×1.5	6.9±1.4	49.9±10.1

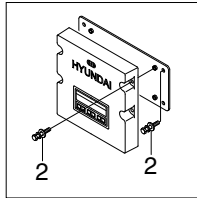
Item	Size	kgf · m	lbf · ft
6	M12×1.75	12.8±3.0	92.6±21.7
7	M16×2.0	29.7±4.5	215±32.5
8	M20×2.5	57.9±8.7	419±62.9
9	-	2.3±0.6	16.6±4.3

# GROUP 3 ELECTRIC SYSTEM

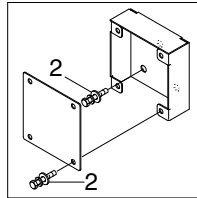
## ELECTRIC COMPONENTS MOUNTING 1



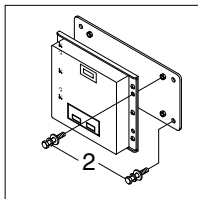
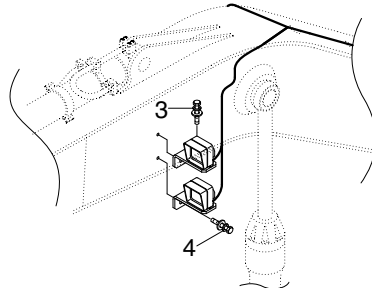
DETAIL A



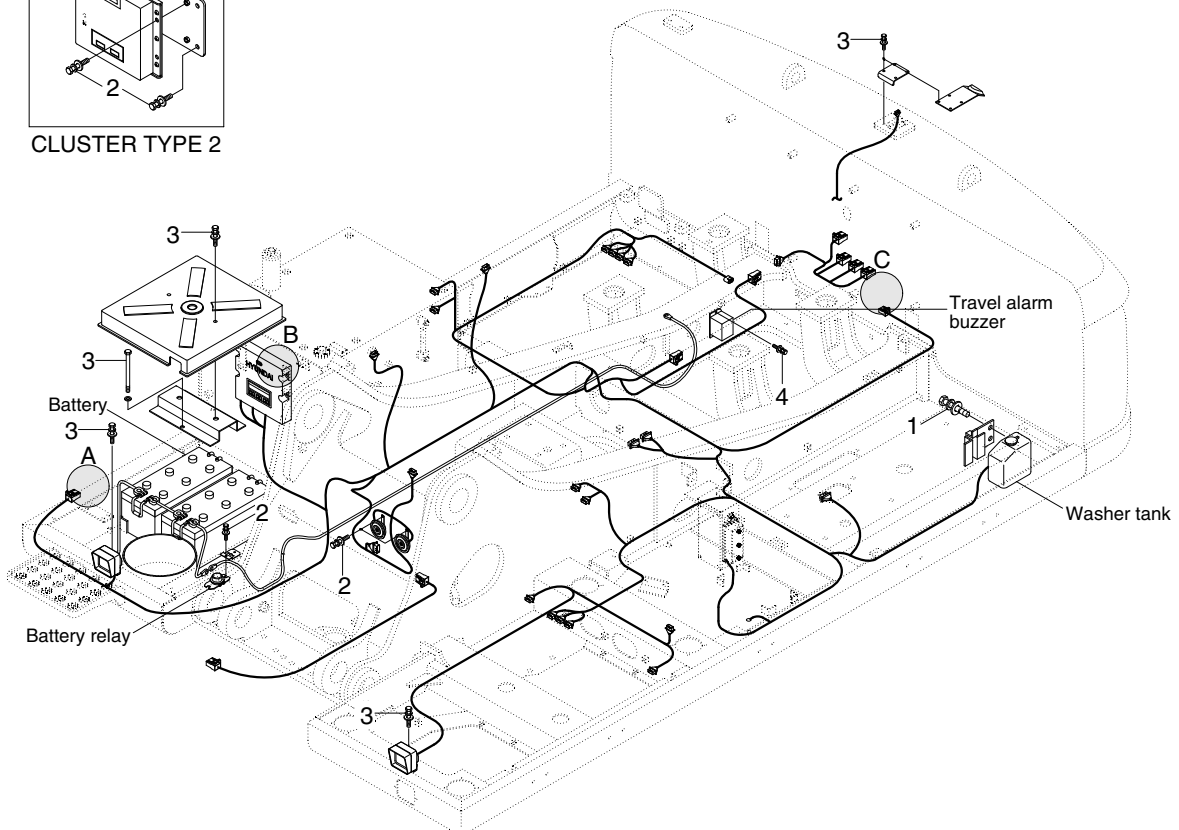
DETAIL B



DETAIL C



CLUSTER TYPE 2



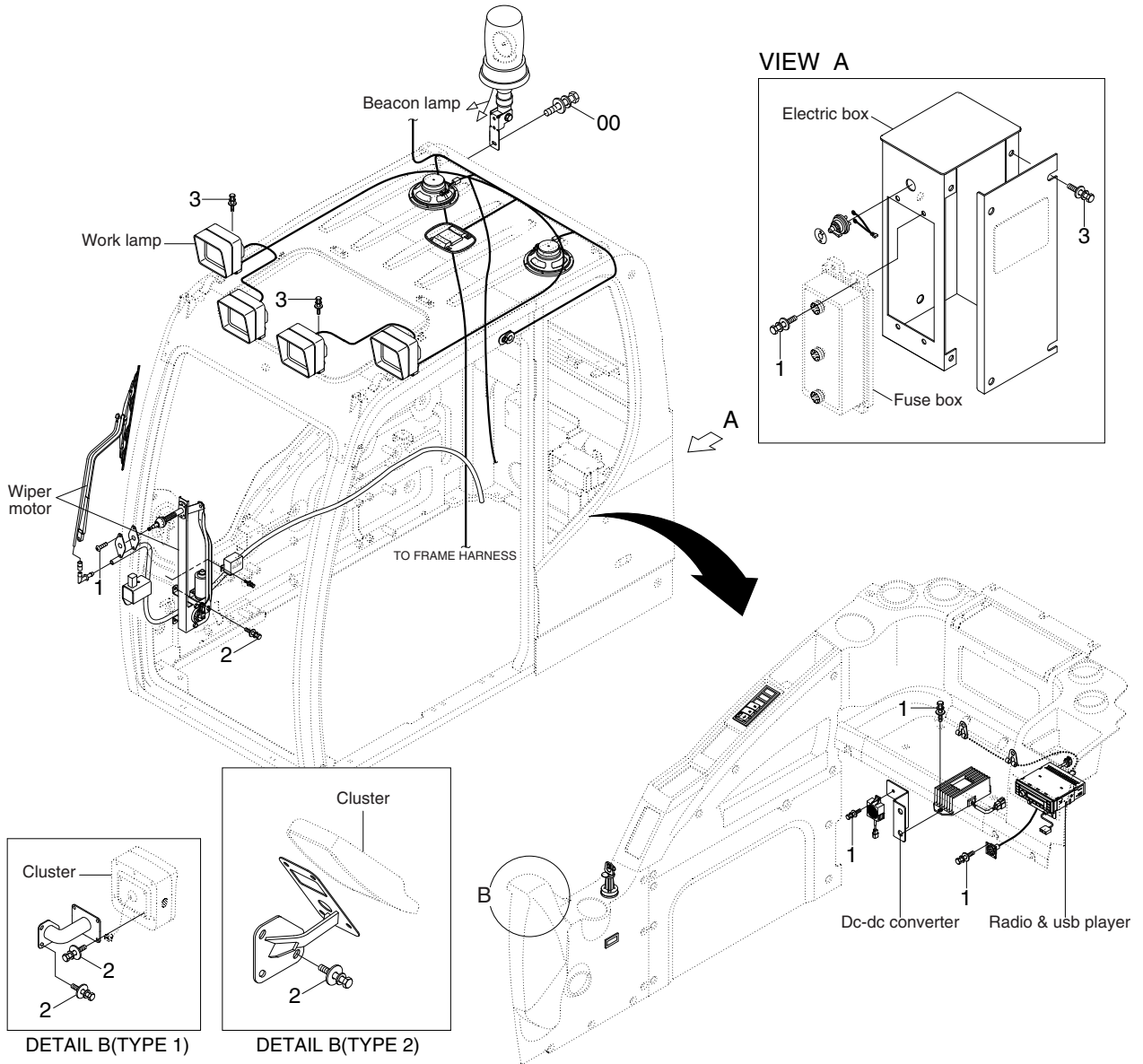
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### · Tightening torque

Item	Size	kgf · m	lbf · ft
1	M 6×1.0	1.05±0.2	7.6±1.45
2	M 8×1.25	2.5±0.5	18.1±3.6

Item	Size	kgf · m	lbf · ft
3	M10×1.5	6.9±1.4	49.9±10.1
4	M12×1.75	12.8±3.0	92.6±21.7

# ELECTRIC COMPONENTS MOUNTING 2



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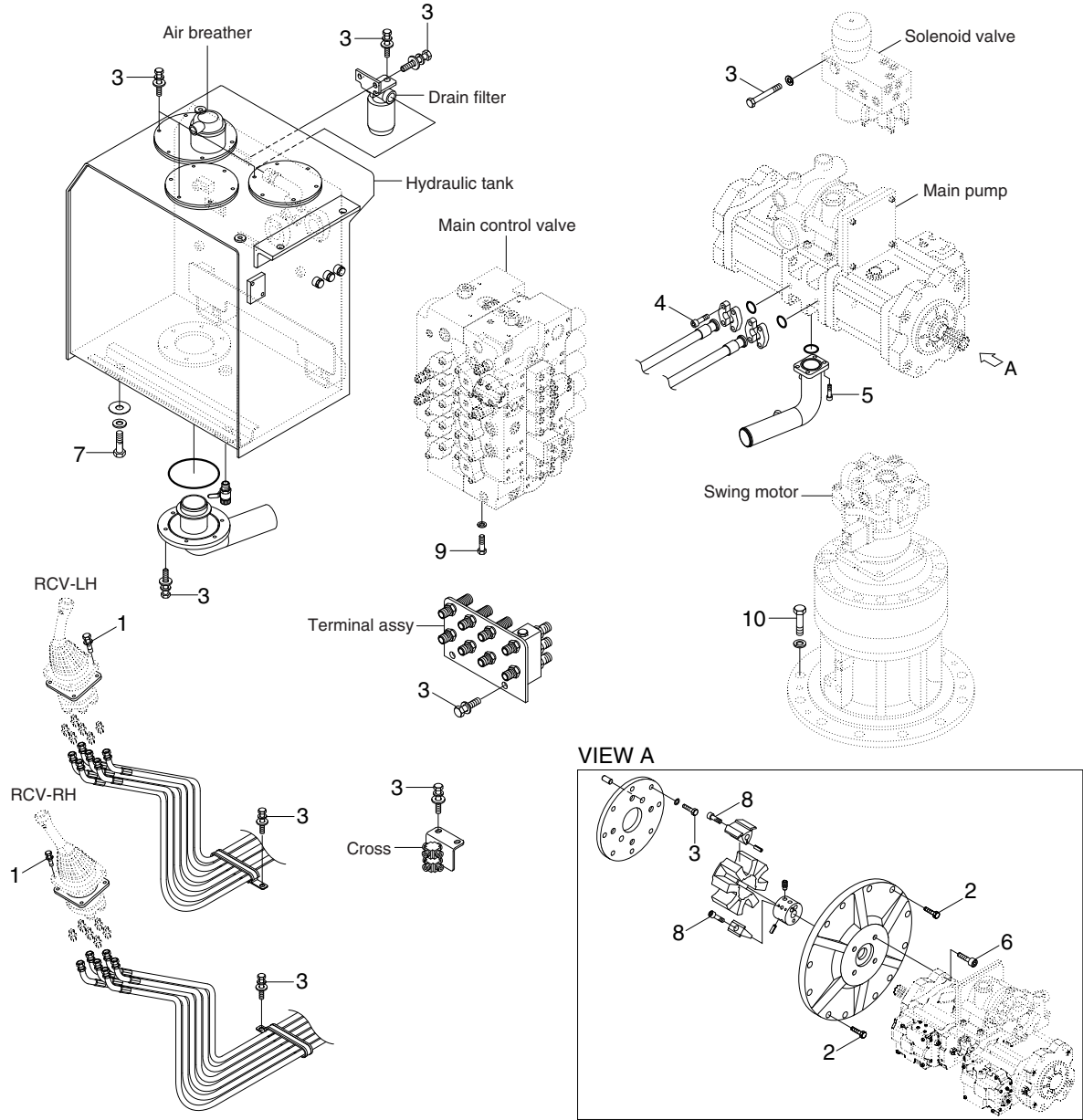
## · Tightening torque

Item	Size	kgf · m	lbf · ft
1	M 6×1.0	1.05±0.2	7.6±1.45
2	M 8×1.25	2.5±0.5	18.1±3.6

Item	Size	kgf · m	lbf · ft
3	M10×1.5	6.9±1.4	49.9±10.1

# GROUP 4 HYDRAULIC SYSTEM

## HYDRAULIC COMPONENTS MOUNTING 1



3809SH9CM05

### · Tightening torque

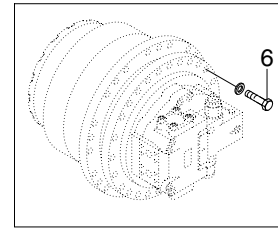
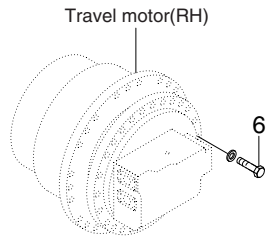
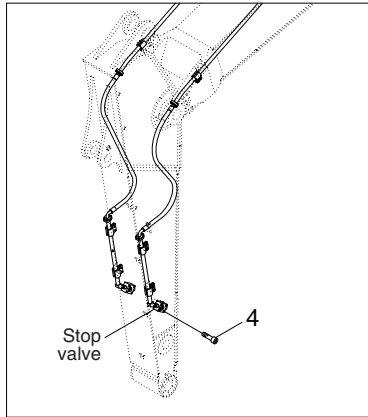
Item	Size	kgf · m	lbf · ft
1	M 6×1.0	1.05±0.2	7.6±1.45
2	M10×1.5	4.8±0.3	34.7±2.2
3	M10×1.5	6.9±1.4	49.9±10.1
4	M12×1.75	12.3±1.3	88.9±9.4
5	M16×2.0	29.7±4.5	215±32.5

Item	Size	kgf · m	lbf · ft
6	M20×2.5	42±4.5	304±32.5
7	M20×2.5	46±5.1	333±36.9
8	M20×2.5	46.5±2.5	336±18
9	M20×2.5	57.9±8.7	419±62.9
10	M24×3.0	97.8±15	707±108

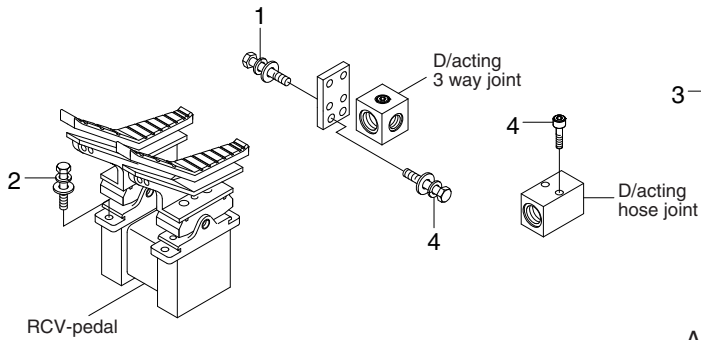
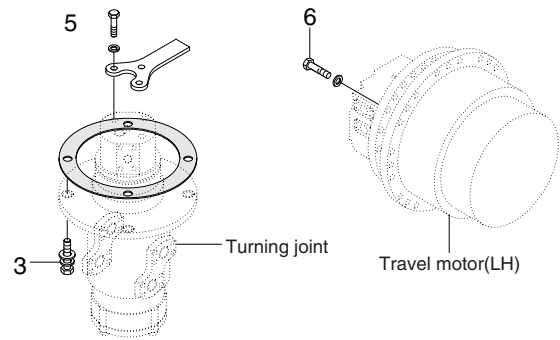


# HYDRAULIC COMPONENTS MOUNTING 2

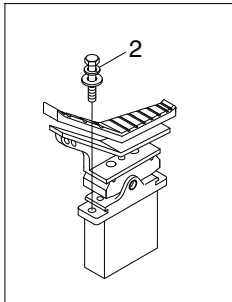
## Double acting attachment piping



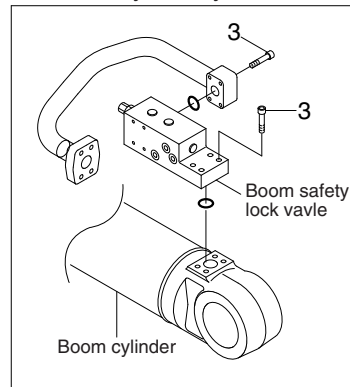
T/motor type 2



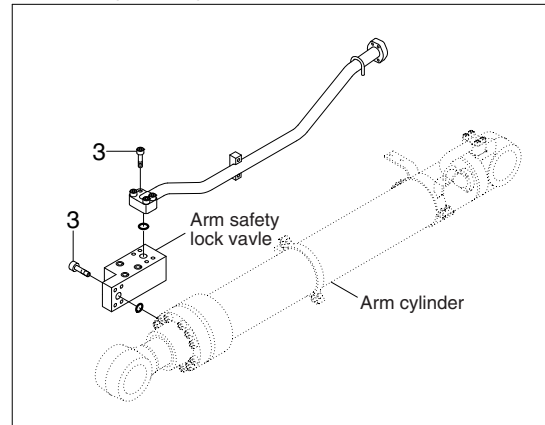
## D/acting single pedal



## Boom safety lock system



## Arm safety lock system



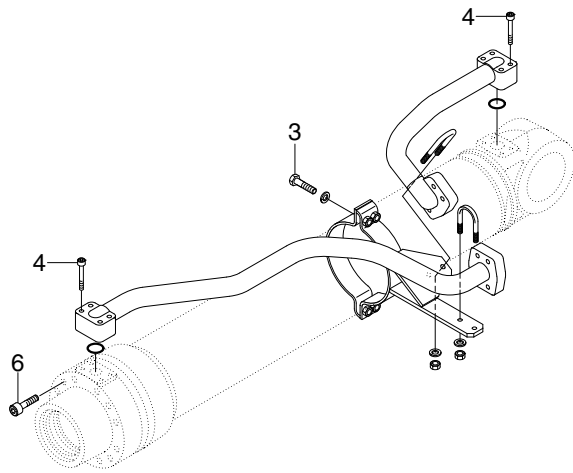
3809SH9CM06

## · Tightening torque

Item	Size	kgf · m	lbf · ft
1	M 8×1.25	4.05±0.8	29.3±5.8
2	M10×1.5	6.9±1.4	49.9±10.1
3	M12×1.75	12.3±1.3	88.9±9.4

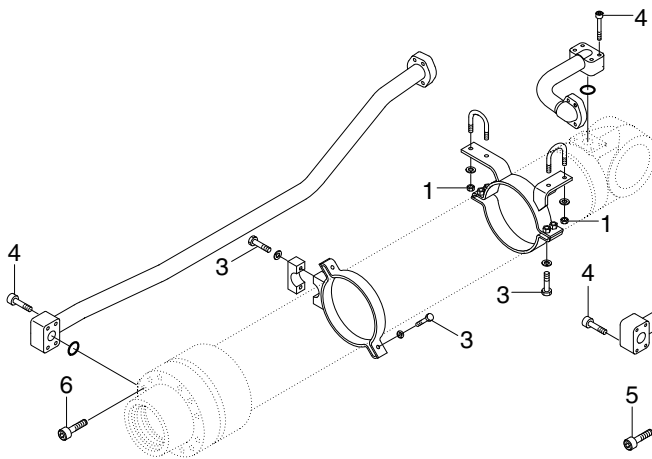
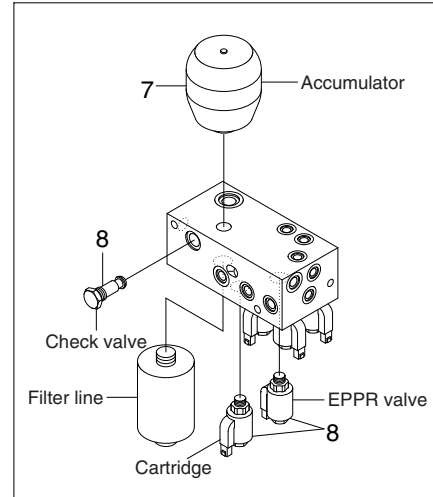
Item	Size	kgf · m	lbf · ft
4	M12×1.75	12.8±3.0	92.6±21.7
5	M14×2.0	19.6±2.9	142±20.9
6	M20×2.0	58±6.0	420±43.4

# HYDRAULIC COMPONENTS MOUNTING 3

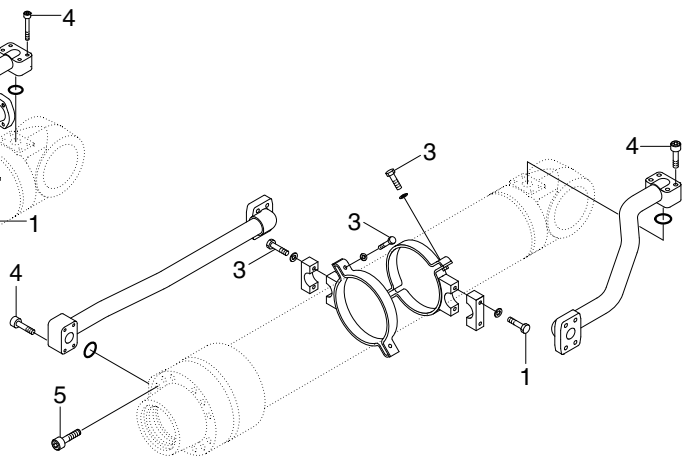


BOOM CYLINDER

## Solenoid valve



ARM CYLINDER



BUCKET CYLINDER

3809SH9CM07

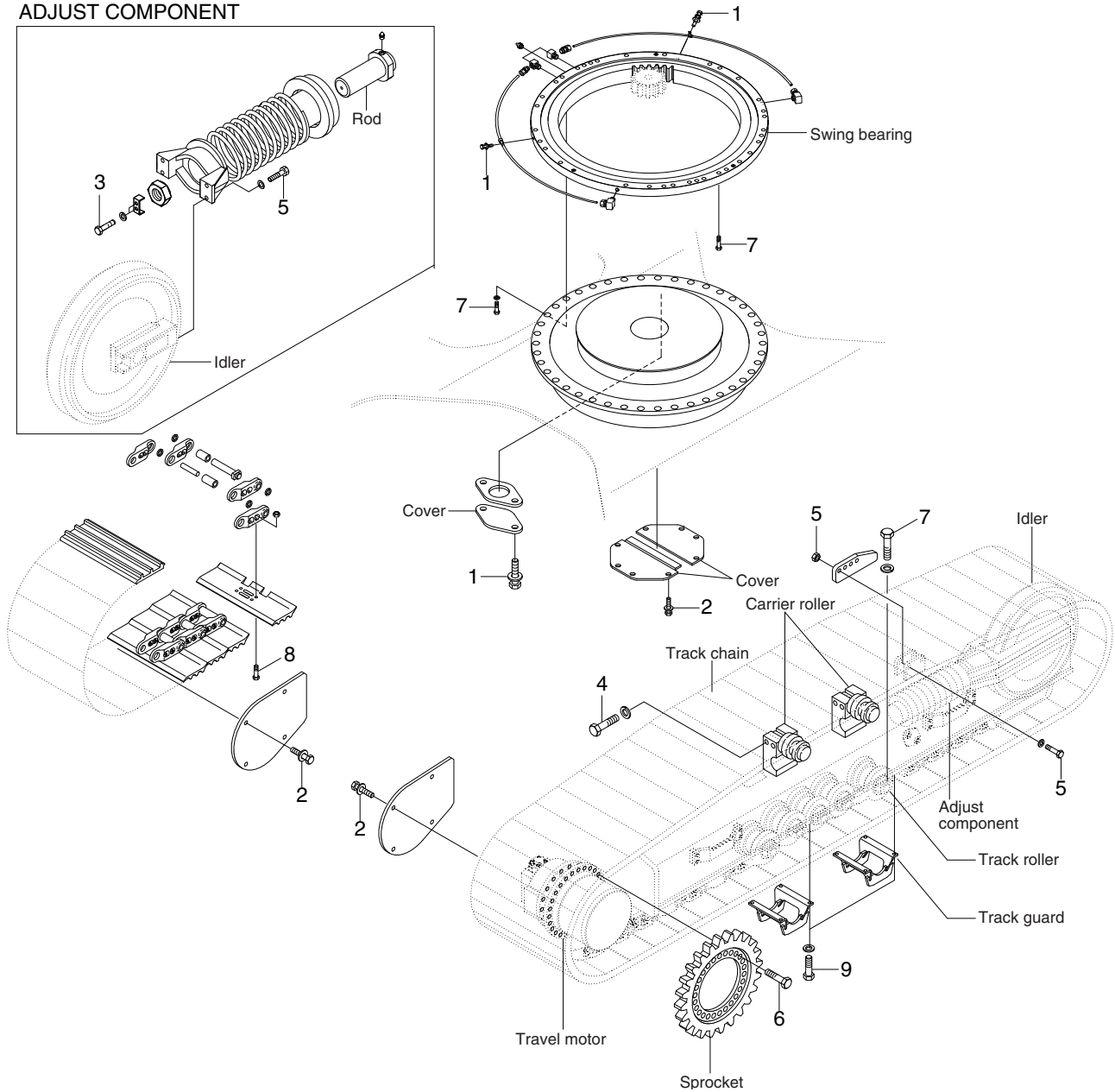
### · Tightening torque

Item	Size	kgf · m	lbf · ft
1	M10×1.5	3.2±0.3	23.1±2.2
3	M12×1.75	5.5±0.6	39.8±4.3
4	M12×1.75	9.4±1.0	68.0±7.2
5	M20×2.5	46±5.0	333±36.2

Item	Size	kgf · m	lbf · ft
6	M22×2.5	63±6.0	456±43.4
7	M22×2.5	4.1	29.6
8	M27×3.0	5.1	36.9
-	-	-	-

# GROUP 5 UNDERCARRIAGE

## UNDERCARRIAGE MOUNTING



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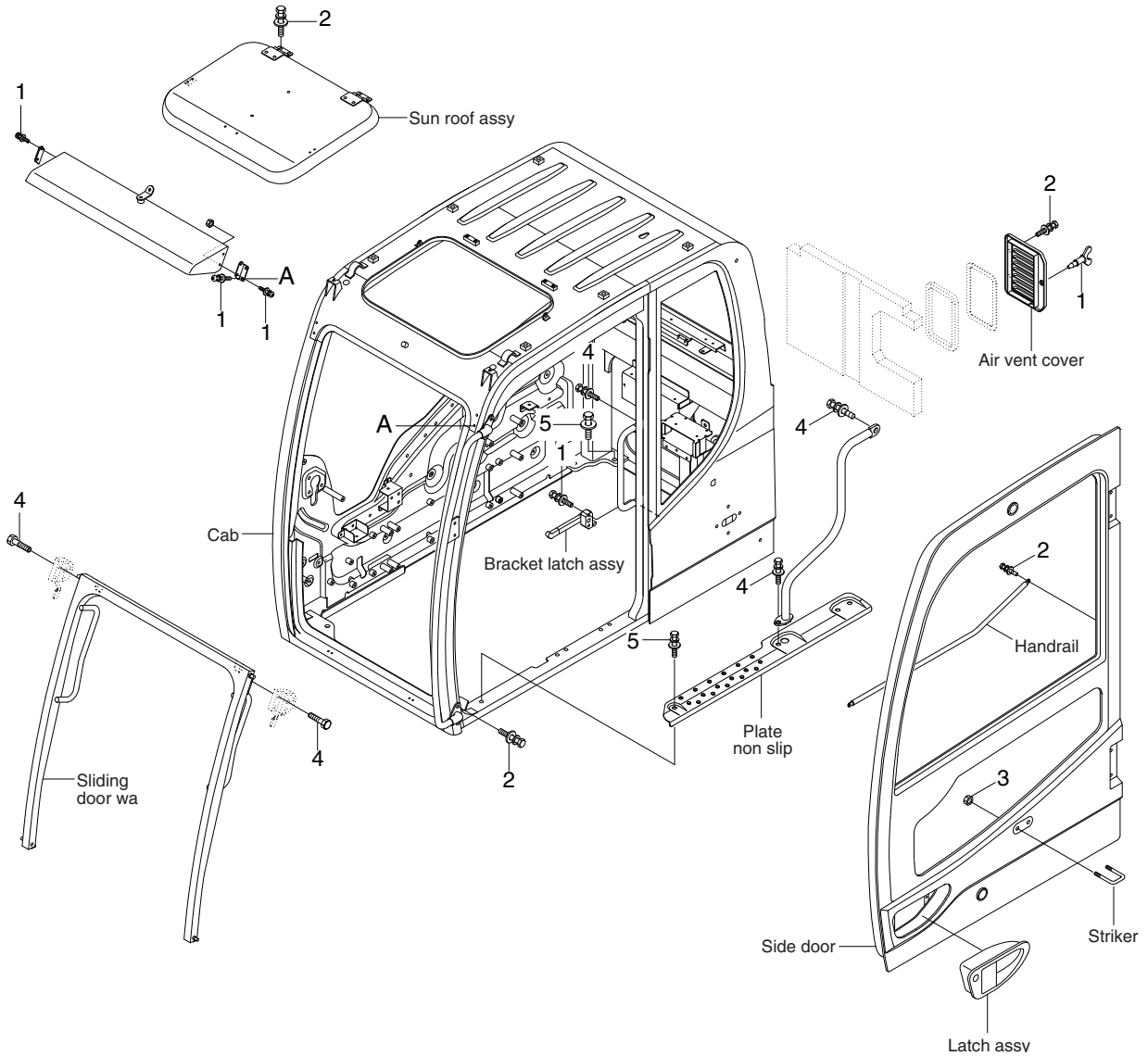
### · Tightening torque

Item	Size	kgf · m	lbf · ft
1	M10×1.5	6.9±1.4	49.9±10.1
2	M12×1.75	12.8±3.0	92.6±21.7
3	M12×1.75	15±0.5	108±3.6
4	M16×2.0	29.7±3.0	215±21.7
5	M16×2.0	29.7±4.5	215±32.5

Item	Size	kgf · m	lbf · ft
6	M20×2.5	57.9±6.0	419±43.4
7	M24×3.0	100±10	723±72.3
8	M24×1.5	140±5.0	1010±36.2
9	M24×3.0	77.4±11	560±79.6
-	-	-	-

# GROUP 6 STRUCTURE

## CAB AND ACCESSORIES MOUNTING



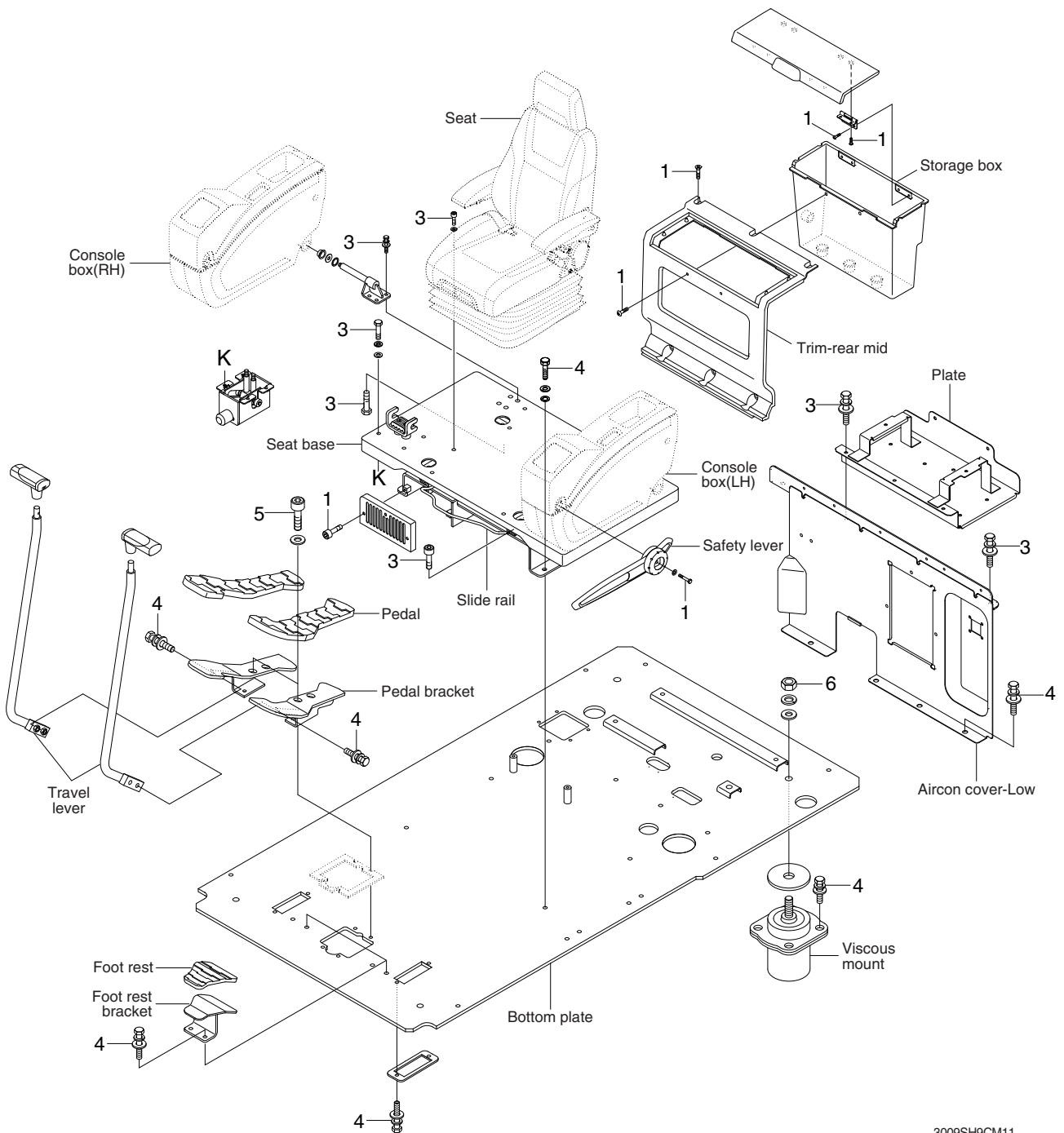
3809SH9CM09

### · Tightening torque

Item	Size	kgf · m	lbf · ft
1	M 6×1.0	0.49±0.1	3.5±0.7
2	M 8×1.25	2.5±0.5	18.1±3.6
3	M10×1.5	4.7±0.9	34±6.5

Item	Size	kgf · m	lbf · ft
4	M10×1.5	6.9±1.4	49.9±10.1
5	M12×1.75	12.8±3.0	92.6±21.7

# CAB INTERIOR MOUNTING



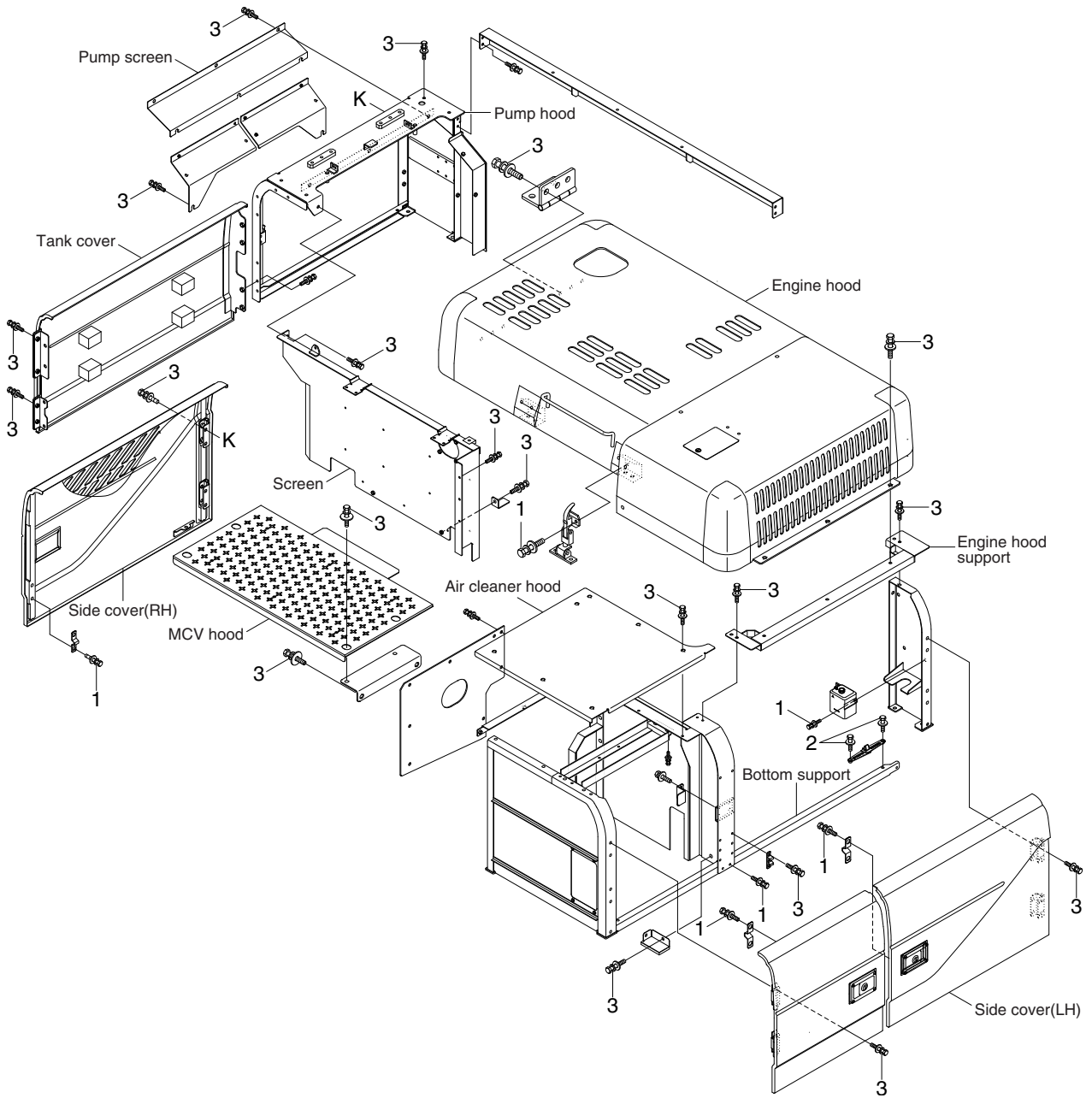
3009SH9CM11

## · Tightening torque

Item	Size	kgf · m	lbf · ft
1	M 6×1.0	0.49±0.1	3.5±0.7
2	M 8×1.25	4.05±0.8	29.3±5.8
3	M 8×1.25	2.5±0.5	18.1±3.6

Item	Size	kgf · m	lbf · ft
4	M10×1.5	6.9±1.4	49.9±10.1
5	M10×1.5	8.27±1.7	59.8±12.3
6	M16×2.0	29.7±4.5	215±32.5

# COWLING MOUNTING



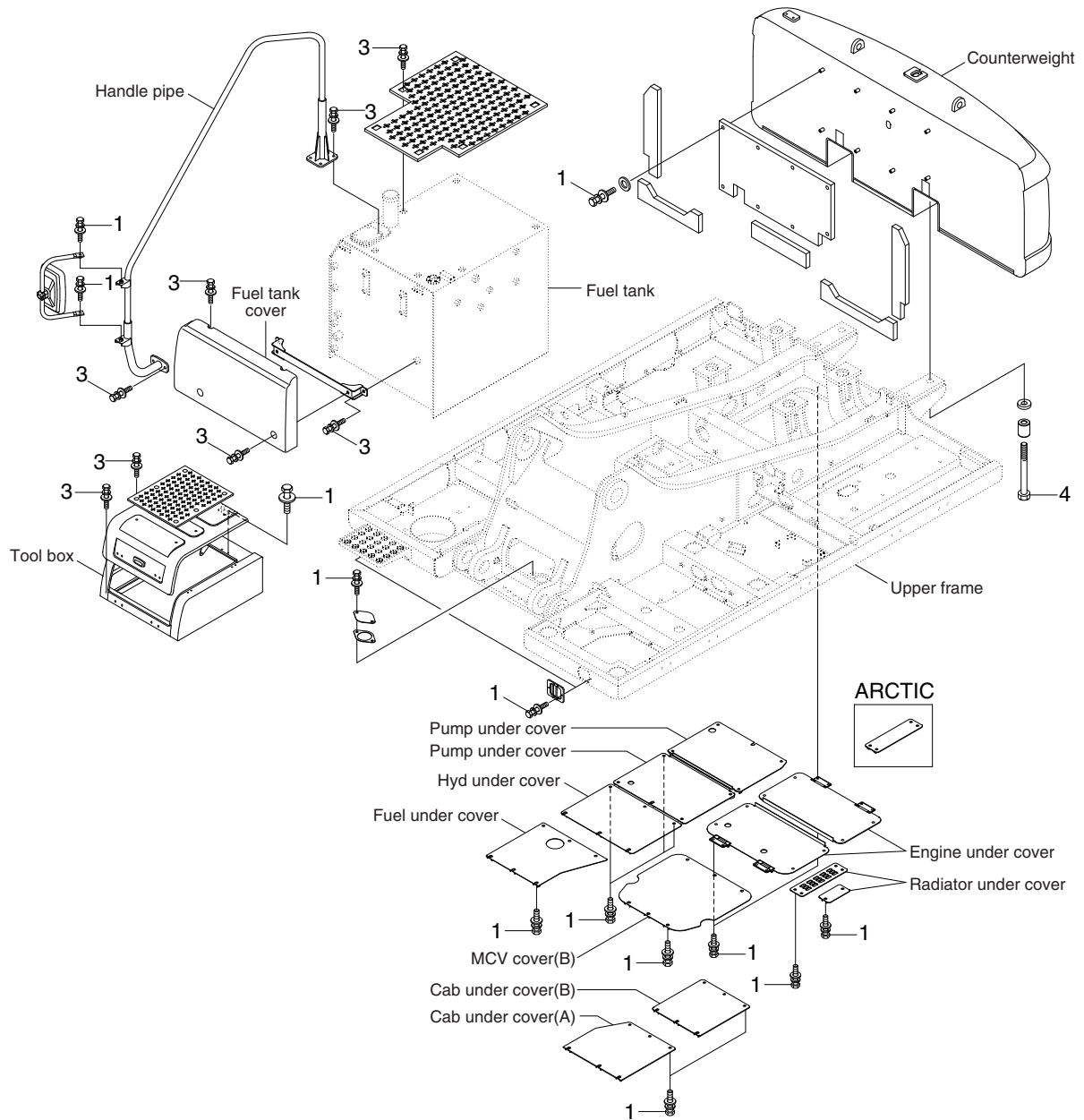
3809SH9CM21

## · Tightening torque

Item	Size	kgf · m	lbf · ft
1	M8×1.25	2.5±0.5	18.1±3.6
2	M10×1.5	6.9±1.4	49.9±10.1

Item	Size	kgf · m	lbf · ft
3	M12×1.75	12.8±3.0	92.6±21.7
-	-	-	-

# COUNTERWEIGHT AND COVERS MOUNTING



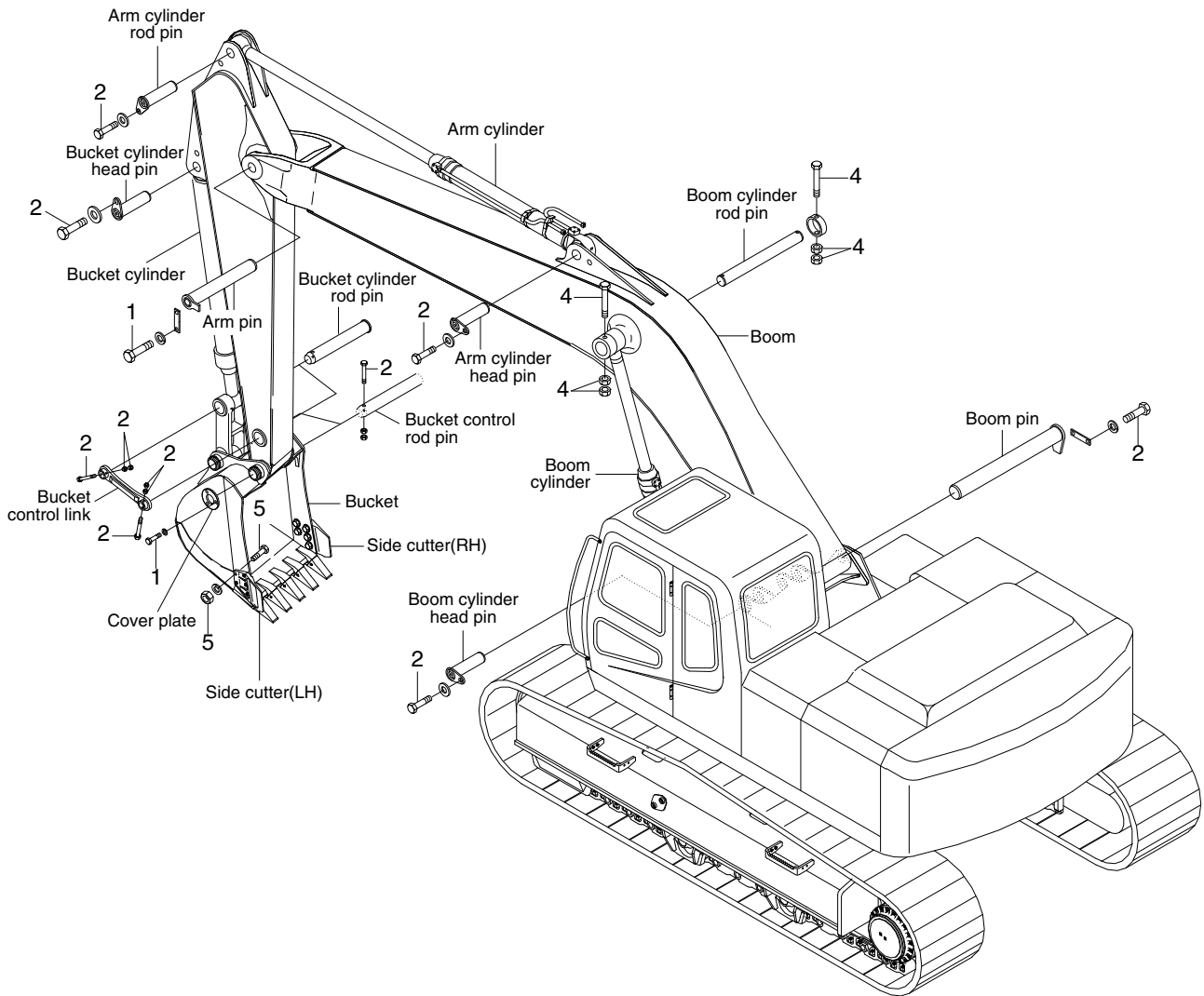
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## · Tightening torque

Item	Size	kgf · m	lbf · ft
1	M10×1.5	6.9±1.4	49.9±10.1
2	M 8×1.25	2.5±0.5	18.1±3.6

Item	Size	kgf · m	lbf · ft
3	M12×1.75	12.8±3.0	92.6±21.7
4	M36×3.0	308±46	2228±333

# GROUP 7 WORK EQUIPMENT



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## · Tightening torque

Item	Size	kgf · m	lbf · ft
1	M16×2.0	29.7±4.5	215±32.5
2	M20×2.5	57.9±8.7	419±62.9
3	M22×2.5	81.9±16.1	592±116

Item	Size	kgf · m	lbf · ft
4	M24×3.0	100±15	723±108
5	M30×3.5	199±30	1439±217
-	-	-	-