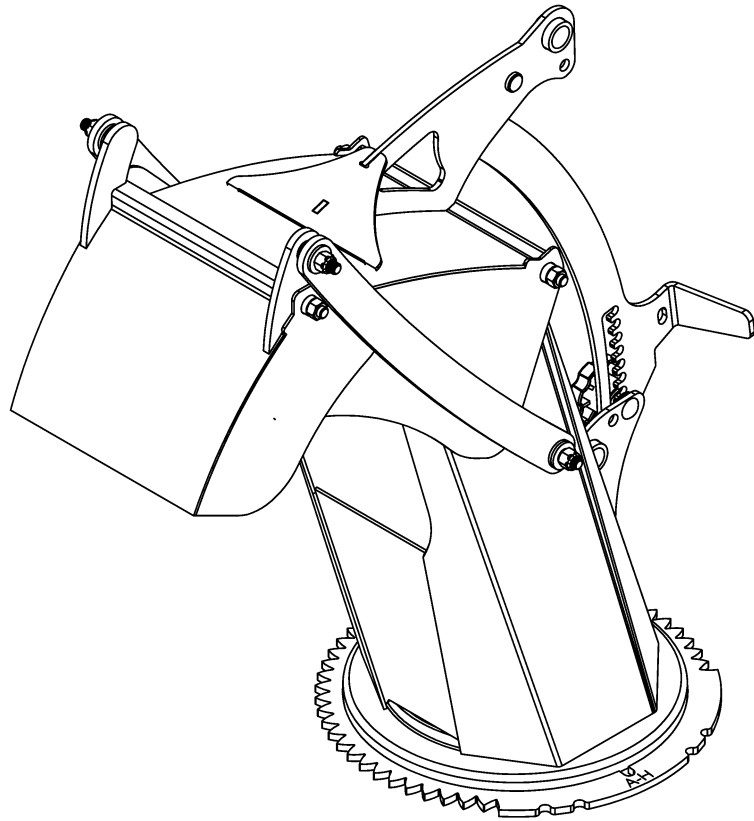




RADTECH
INNOVATION



Estimated assembly time: 15 minutes

BER0157 THREE PART CHUTE INSTRUCTION SHEET

For B48C, B54C & B64C

INTRODUCTION

This is the instruction sheet for the BER0157 three-part chute. This option can be used on the snowblowers listed on the cover page. Consult the snowblowers operator's manual for complete safety and operating instructions.

Illustrations

The illustrations may not necessarily reproduce the full detail and the exact shape of the parts or depict the actual models but are intended for reference only.

Direction Reference

All references to right and left, forward or rearward are determined by those seen by the operator located behind the equipment.

SAFETY FIRST

This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully. It is essential that you read the instructions and safety regulations before you attempt to assemble or use this unit.



DANGER : Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING : Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION : Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.


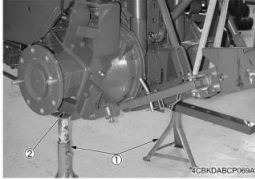

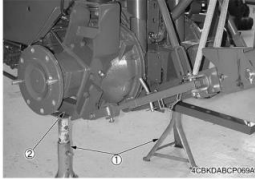

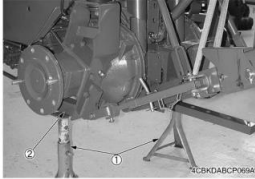
IMPORTANT : Indicates that equipment or property damage could result if instructions are not followed.

NOTE : Gives helpful information.



GENERAL SAFETY INFORMATION

	<p>BEFORE YOU START SERVICE</p> <ul style="list-style-type: none"> • Read all instructions and safety instructions in this manual and on your machine safety decals. • Clean the work area and machine. • Park the machine on a stable and level ground, and set the parking brake. • Lower the implement to the ground. • Stop the engine, then remove the key. • Disconnect the battery negative cable. • Hang a "DO NOT OPERATE" tag in the operator station. 		<p>No Smoking or Open Flames while Fueling</p> <ul style="list-style-type: none"> • Fuel is extremely flammable and dangerous. Never smoke near fuel. If fuel is spilled on the machine, its engine, or electrical parts, it may cause a fire. If fuel is spilled, wipe it all up immediately. • Never smoke while filling the machine with fuel. And always tighten the fuel cap securely and wipe up any spilled fuel.
	<ul style="list-style-type: none"> • When performing maintenance on the equipment, hang the DO NOT OPERATE sign where it will be obvious from and around the driver's seat. • When performing maintenance or repairs, always lower attachments to the ground, stop the engine and secure the tracks with blocks. • When performing maintenance on the equipment, always disconnect the negative battery cable. • Before using tools, make sure you understand how to use them correctly and use tools in good condition and of the right size for the job. 		<ul style="list-style-type: none"> • Before getting on/off of the machine, clean off around the steps so there is no mud on them. Always give yourself 3-point support when getting on/off the machine. <p>CAUTION</p> <ul style="list-style-type: none"> • 3-point support means using both legs and one hand or both hands and one leg as you climb up/down.
	<p>START SAFELY</p> <ul style="list-style-type: none"> • Do not do the procedures below when you start the engine. <ul style="list-style-type: none"> - short across starter terminals - bypass the safety start switch • Do not alter or remove any part of machine safety system. • Before you start the engine, make sure that all shift levers are in neutral positions or in disengaged positions. • Do not start the engine when you stay on the ground. Start the engine only from operator's seat. 		<ul style="list-style-type: none"> • Do not remove the radiator cap when the engine operates, or immediately after it stops. If not, hot water can spout out from the radiator. Only remove the radiator cap when it is at a sufficiently low temperature to touch with bare hands. Slowly loosen the cap to release the pressure before you remove it fully.
	<p>Starting the Machine Safely</p> <ul style="list-style-type: none"> • Before starting the engine, always sit in the driver's seat and make sure the area is safe and clear. • As it is dangerous, never start the engine from anywhere but the driver's seat. • Always check and make sure control lever(s) are not engaged before starting the engine. • Never start the engine by hot-wiring the starter circuit. This is not only dangerous, but may damage the machine. 		<ul style="list-style-type: none"> • The engine, muffler, radiator, hydraulic line, etc., have parts that remain very hot even after the engine has been stopped. Be sure to avoid these parts, as touching them can result in burns. Radiator coolant, hydraulic fluid and oil also remain hot. Therefore, do not attempt to remove caps and plugs, etc., before these fluids have sufficiently cooled. • Make sure the coolant temperature has dropped sufficiently before opening the radiator cap. Also, since the inside of the radiator is pressurized, when removing the cap, first loosen it to release the pressure before removing the cap completely.
	<ul style="list-style-type: none"> • Wear clothes appropriate for working on equipment. Do not wear loose-fitting clothes as they may catch on the machine controls. • When working on the equipment, use all safety gear, such as a helmet, safety glasses and shoes, that are required by law or regulation. • Never perform maintenance while drowsy or under the influence of alcohol or drugs. 		<ul style="list-style-type: none"> • Grease is under high pressure inside the hydraulic cylinder. It is very dangerous to loosen a grease nipple quickly as it may shoot off. Always loosen grease nipples slowly. • And never face a grease nipple while loosening it.
	<p>Be Ready for an Emergency</p> <ul style="list-style-type: none"> • Keep a first-aid kit and fire extinguisher close at hand so you can use it when needed. • Keep emergency contact information for doctors, hospitals and ERs handy. 		<p>PREVENT A FIRE</p> <ul style="list-style-type: none"> • Fuel is very flammable and explosive under some conditions. Do not smoke or let flames or sparks in your work area. • To prevent sparks from an accidental short circuit, always disconnect the battery negative cable first and connect it last. • The battery gas can cause an explosion. Keep the sparks and open flame away from the top of battery, especially when you charge the battery. • Make sure that you do not spill fuel on the engine.
	<p>KEEP A GOOD AIRFLOW IN THE WORK AREA</p> <ul style="list-style-type: none"> • If the engine is in operation, make sure that the area has good airflow. Do not operate the engine in a closed area. The exhaust gas contains poisonous carbon monoxide. 		<p>Dispose of Waste Fluids Properly</p> <ul style="list-style-type: none"> • Never dispose of waste fluids on the ground, in the gutter, a river, pond or lake. Always dispose of hazardous substances like waste oil, coolant and electrolytic fluid in accordance with the relevant environmental protection regulations. • Keep the safety plates clean so they can be read. If a safety plate is damaged and comes off or becomes illegible, put a plate with the same warnings back in its place.

	<ul style="list-style-type: none"> The pressure in the hydraulic circuit stays at pressure even after the engine stops. Before removing parts, such as hydraulic devices from the machine, first release the pressure. Please note that when releasing residual pressure, the machine itself and/or implements may move without warning, so be very careful when releasing the pressure. Oil gushing out under pressure is extremely dangerous as it may pierce your skin or your eyes. Similarly, oil leaking out of pinholes is not visible. So when checking for oil leaks, always wear safety glasses and gloves and use a piece of cardboard or a wood block to shield yourself from oil. 		<ul style="list-style-type: none"> When you need to access the underside of the machine for maintenance purposes, but sure to support the machine with a safety stand. Getting under the machine while supporting the machine by machine's own hydraulic cylinder or using a hydraulic jack can be extremely dangerous in the event of a hydraulic fluid leakage or similar mishap. <p>(1) Safety stand (2) Secure point for safety stand</p>
	<ul style="list-style-type: none"> Do not open a fuel system under high pressure. The fluid under high pressure that stays in fuel lines can cause serious injury. Do not disconnect or repair the fuel lines, sensors, or any other components between the fuel pump and injectors on engines with a common rail fuel system under high pressure. Put on an applicable ear protective device (earmuffs or earplugs) to prevent injury against loud noises. Be careful about electric shock. The engine generates a high voltage of more than DC100 V in the ECU and is applied to the injector. 		<ul style="list-style-type: none"> Whenever it is necessary to open the engine covers or hood in order to service the machine, always prop them open. If it is absolutely necessary to run the engine while working on the machine, make sure you are clear of all rotating or moving parts. Also take care not to leave anything, such as tools or rags, near any moving parts.
	<ul style="list-style-type: none"> Engage the loader control valve lock to prevent accidental actuation when the implement is not in use or during transport. Do not utilize the valve lock for machine maintenance or repair. Do not perform machine maintenance with loader in the air. If possible, follow loader instructions to remove loader before performing maintenance. If the machine has a backhoe, engage swing and boom locks. 		

Before Operation

1. Park the machine/implement on level ground, set the parking brake, lower the implement to the ground, place all control levers in neutral, shut off the engine and remove the ignition key and allow the rotating parts to stop BEFORE making any implement adjustments.
2. Do not put hands or feet under implement and frame.
3. Do not operate the machine/implement that is defective or has missing parts. Make sure that all recommended maintenance procedures are completed before operating the unit.
4. Keep the machine/implement clean. Snow, dirt or ice build-up can lead to malfunction or personal injury from thawing and refreezing in garage.
5. Do not modify or alter this equipment or any of its components, or any equipment function without first consulting your dealer. The manufacturer will not claim responsibility for fitment of unapproved parts and/or accessories and any damages as a result of their use.
6. Verify that all machine/implement safety protective devices are in place. Shields, guards and covers must be correctly installed at all times. When necessary to remove these for servicing, cleaning, or repair work, they must be reinstalled immediately.
7. Always make sure all implement components are properly installed and securely fastened.
8. Check for moving parts excessive wear regularly. ALWAYS USE GENUINE PARTS WHEN REPLACEMENT PARTS ARE REQUIRED.
9. Prior to operation, clear work area and mark all curbs, pipes, etc. that cannot be moved.
10. Inspect the machine/implement after striking any foreign object to assure that all machine/implement parts are safe and secure and not damaged.
11. Handle fuel with care, as it is highly flammable. Use approved fuel container.
12. Never add fuel to a running engine or a hot engine.
13. Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors. Replace fuel cap securely and wipe up spilled fuel.
14. Check all machine controls regularly and adjust where necessary. Make sure that the brakes are evenly adjusted. Periodically check all nuts and bolts for tightness, especially wheel hub and rim nuts.
15. Make sure the machine is counterweighted and has tire chains for better traction and stability as recommended by your dealer. Weights provide the necessary balance to improve stability, traction and steering. Use only those recommended by your dealer

During Operation

1. Never allow anyone to operate the machine and implement until they have read the manuals completely and are thoroughly familiar with their basic operation. Lack of operating knowledge can lead to accidents.
2. Do not allow anyone to ride on the machine/implement at any time. The only one allowed is the operator that MUST sit in the driver seat.
3. Never allow anyone near the work area.
4. Never operate the implement without safety protective devices in place. All machine/implement shields, guards and covers must be correctly installed at all times.
5. Park the machine/implement on level ground, place the transmission in neutral, set the parking brake, disengage the driving system, lower the equipment to the ground, place all levers including auxiliary control levers in neutral, shut off the engine and remove the ignition key BEFORE LEAVING THE MACHINE.
6. Always drive the machine at speeds compatible with safety, especially when operating over rough ground, crossing ditches, slippery surface or when turning.
7. Use extra caution when backing up.
8. Operate only with good visibility and during daylight hours, or when the area is well lit with bright artificial light.
9. Exercise extreme caution when operating on or crossing a gravel drive, walks, or roads. Stay alert for hidden hazards or traffic.
10. Never Park the machine on a steep slope. Do not attempt to operate on steep slopes. If operating on slopes is necessary, exercise extreme caution when changing direction.


SAFETY DECALS

IMPORTANT: Keep all decals clean and legible. Replace all missing, illegible, or damaged decals.

IMPORTANT: Decal placement locations shown are approximate; decals should not be placed in a location where the operator's field of view is impeded, and should not cover any portion of other decals installed in the same vicinity.

INSTALLING OR REPLACING DECALS: Thoroughly clean the area where decal is to be placed using mild soap and water. Allow the surface to fully dry. Remove the backing from the decal, exposing the adhesive surface. Apply the decal to the recommended position shown in the diagram below and smooth out any bubbles.

⚠ DANGER



To Avoid Serious Injury:

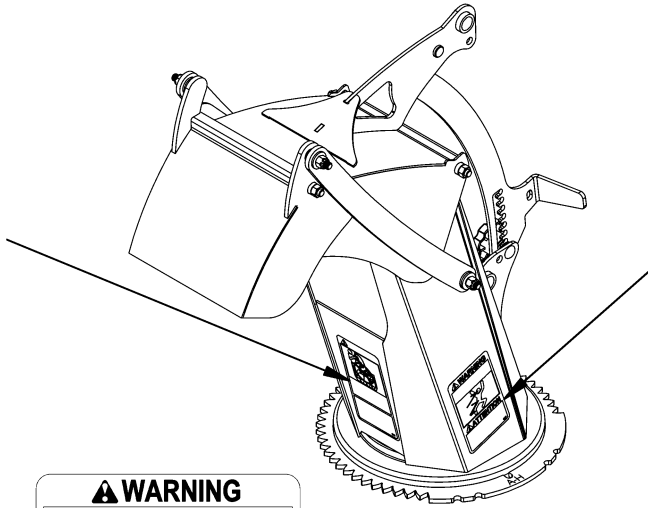
- Keep hands out of discharge chute while engine is running.
- Shut off engine before unclogging discharge chute.

Pour Éviter Des Blessures Graves:

- Garder les mains éloignées de la chute lorsque le moteur est en marche.
- Arrêter le moteur avant de débloquer la chute.

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⚠ WARNING

Thrown Objects Hazard

- Keep hands, feet and face away from opening.



⚠ ATTENTION

Risque De Projection D'objets

- Garder les mains, les pieds et le visage à l'écart de l'ouverture.


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⚠ WARNING

CRUSHING AND PINCHING HAZARD

- Keep hands and feet away from moving parts.



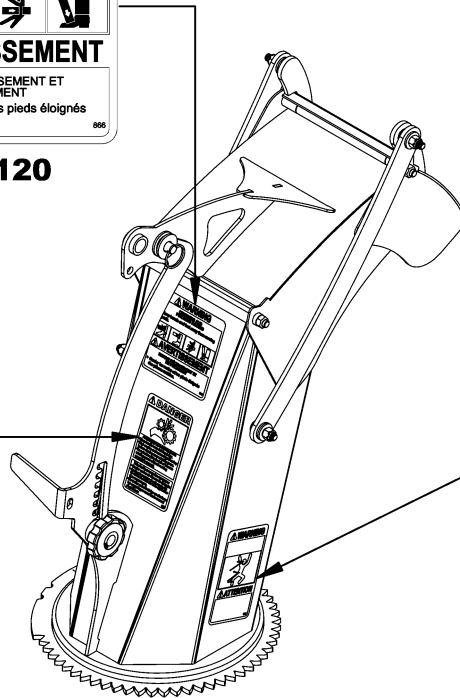
⚠ AVERTISSEMENT

RISQUE D'ÉCRASEMENT ET DE PINCEMENT

- Garder les mains et les pieds éloignés des pièces mobiles.

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⚠ DANGER



Avoid injury from rotating gears:

- Keep hands and clothing away.
- Stop engine and remove ignition key before coming near rotating gears.
- Do not attempt to install or remove rotating gears without reading operator's manual.

Évitez les blessures par les engrenages :

- Garder mains et vêtements éloignés.
- Arrêtez le moteur et enlevez la clé de contact avant de vous approcher des engrenages.
- Ne tentez pas d'installer ou d'enlever les engrenages sans lire le manuel d'opérateur.

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⚠ WARNING

Thrown Objects Hazard

- Keep hands, feet and face away from opening.



⚠ ATTENTION

Risque De Projection D'objets

- Garder les mains, les pieds et le visage à l'écart de l'ouverture.

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INSTALLATION

⚠ WARNING: To avoid serious personal injury or death: Read and understand the SAFETY PRECAUTIONS on previous pages before installation and operation. Perform all assembly with unit properly blocked and supported. **TORQUE ALL THE BOLTS ACCORDING TO THE TORQUE SPECIFICATION TABLE ENCLOSED AT THE END OF THE INSTRUCTION SHEET**

Installation of the three-part chute (Figure 1)

NOTE: The parts and hardware needed to install the chute are included with the snowblower. If the chute is difficult to turn manually, insert the $\varnothing 1/16$ " spacers (item 4) as shown, to give the chute some play.

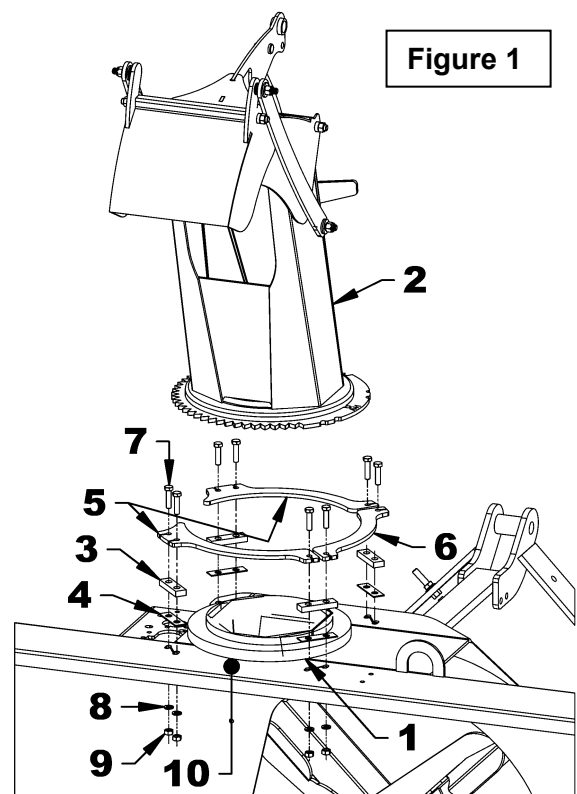
1. **Figure 1:** Place the rotation bushing (item 1) on the snowblower chute base (item 10).
2. **Figure 1:** Install the chute (item 2) over the rotation bushing and install the four $3/8$ " spacers (item 3) and the four $1/16$ " spacers (item 4) if needed, on the chute base (item 10).

NOTE: If the chute has too much play you may remove the $\varnothing 1/16$ " spacers (item 4).

3. **Figure 1:** Place the three retaining plates (items 5 and 6) on the geared flange of the chute (item 2) to form a 270-degree circle with the opening towards the hitch. The two 3-hole retaining plates (items 5) go outside the circle and the 2-hole retaining plate (item 6) goes between them. Secure with eight $\varnothing 5/16$ " x 1-1/2" Gr 5 bolts, eight $\varnothing 5/16$ " lockwashers and eight $\varnothing 5/16$ " hex nuts (items 7 8-9).

NOTE: It is recommended that the spacers be installed as far outwards as possible to avoid any contact with the chute ring. It is also recommended to apply a thin layer of oil or grease on the chute ring to facilitate the rotation.

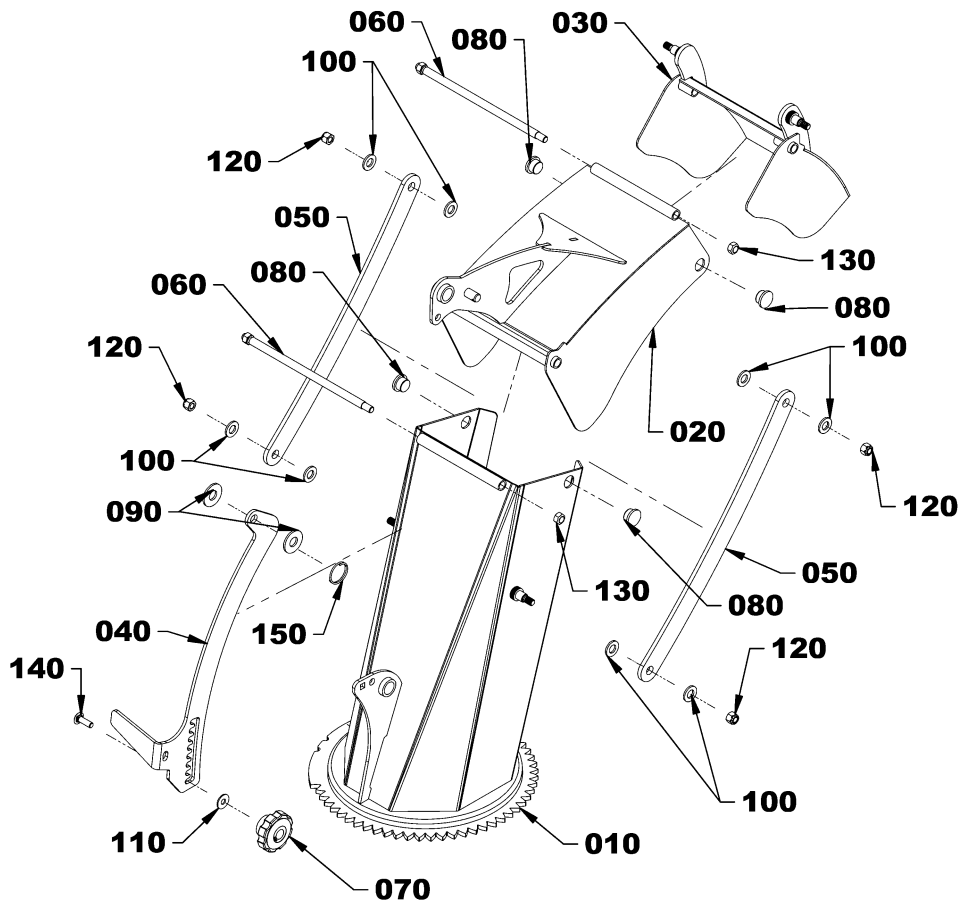
4. Tighten all bolts according to the **Torque Specification Table** at the end of the manual.



PARTS

BER0157 – THREE-PART CHUTE

REF.	PART #	QTY	DESCRIPTION
010	674170	1	Chute base - 42 teeth counter-clockwise
020	673663	1	Middle deflector
030	673664	1	Upper deflector
040	673450	1	Adjustment arm
050	673665	2	Chute lever
060	673666	2	Chute hinge pin
070	657309	1	Knob 5/16"-18
080	671671	4	Plastic bushing
090	1400006	2	Flat washer $\phi 1/2"$ ($\phi 9/16"$ int) Plated
100	1400030	8	Flat washer $\phi 12\text{mm}$ ($\phi 13\text{mm}$ int) Plated
110	658467	1	Nylon flat washer $\phi 11/32" \times \phi 7/8"$
120	1000006	4	Nylon insert lock nut $\phi 3/8"$ NC Plated
130	1100003	2	Stover lock nut $\phi 3/8"$ NC Plated
140	0300003	1	Carriage bolt $\phi 5/16"$ NC x 1" Plated
150	1900011	1	Circle cotter









TORQUE SPECIFICATION TABLE

GENERAL SPECIFICATION TABLE

USE THE FOLLOWING TORQUES WHEN SPECIAL TORQUES ARE NOT GIVEN

Note: These values apply fasteners as received from supplier dry, or when lubricated with normal engine oil. They do not apply if special graphited or moly sidulphide greases or other extreme pressure lubricants are used. These values apply to dry conditions; under lubricated conditions reduce by 25% the torques in this table.

BOLT HEAD IDENTIFICATION

INCHES Bolt Size	 Grade 2		 Grade 5		 Grade 8		METRIC Bolt Size	 Class 5.8		 Class 8.8		 Class 10.9	
	in-tpi ¹	N-m ²	lbs-ft ³	N-m	lbs-ft	N-m		lbs-ft	mm x pitch ⁴	N-m	lbs-ft	N-m	lbs-ft
1/4" – 20NC	7.4	5.6	11	8	16	12	M 5 X 0.8	4	3	6	5	9	7
1/4" – 28NF	8.5	6	13	10	18	14	M 6 X 1	7	5	11	8	15	11
5/16" – 18NC	15	11	24	17	33	25	M 8 X 1.25	17	12	26	19	36	27
5/16" – 24NF	17	13	26	19	37	27	M 8 X 1	18	13	28	21	39	29
3/8" – 16NC	27	20	42	31	59	44	M10 X 1.5	33	24	52	39	72	53
3/8" – 24NF	31	22	47	35	67	49	M10 X 0.75	39	29	61	45	85	62
7/16" – 14NC	43	32	67	49	95	70	M12 X 1.75	58	42	91	67	125	93
7/16" – 20NF	49	36	75	55	105	78	M12 X 1.5	60	44	95	70	130	97
1/2" – 13NC	66	49	105	76	145	105	M12 X 1	90	66	105	77	145	105
1/2" – 20NF	75	55	115	85	165	120	M14 X 2	92	68	145	105	200	150
9/16" – 12NC	95	70	150	110	210	155	M14 X 1.5	99	73	155	115	215	160
9/16" – 18NF	105	79	165	120	235	170	M16 X 2	145	105	225	165	315	230
5/8" – 11NC	130	97	205	150	285	210	M16 X 1.5	155	115	240	180	335	245
5/8" – 18NF	150	110	230	170	325	240	M18 X 2.5	195	145	310	230	405	300
3/4" – 10NC	235	170	360	265	510	375	M18 X 1.5	220	165	350	260	485	355
3/4" – 16NF	260	190	405	295	570	420	M20 X 2.5	280	205	440	325	610	450
7/8" – 9NC	225	165	585	430	820	605	M20 X 1.5	310	230	650	480	900	665
7/8" – 14NF	250	185	640	475	905	670	M24 X 3	480	355	760	560	1050	780
1" – 8NC	340	250	875	645	1230	910	M24 X 2	525	390	830	610	1150	845
1" – 12NF	370	275	955	705	1350	995	M30 X 3.5	960	705	1510	1120	2100	1550
1 1/8" – 7NC	480	355	1080	795	1750	1290	M30 X 2	1060	785	1680	1240	2320	1710
1 1/8" – 12NF	540	395	1210	890	1960	1440	M36 X 3.5	1730	1270	2650	1950	3660	2700
1 1/4" – 7NC	680	500	1520	1120	2460	1820	M36 X 2	1880	1380	2960	2190	4100	3220
1 1/4" – 12NF	750	555	1680	1240	2730	2010							
1 3/8" – 6NC	890	655	1990	1470	3230	2380							
1 3/8" – 12NF	1010	745	2270	1670	3680	2710							
1 1/2" – 6NC	1180	870	2640	1950	4290	3160							
1 1/2" – 12NF	1330	980	2970	2190	4820	3560							

¹ in-tpi = nominal thread diameter in inches-threads per inch
² N-m = newton-meters
³ lbs-ft= pounds-foot
⁴ mm x pitch = nominal thread diameter in millimeters x thread Pitch

*Torque tolerance +0%, -15% of torquing values. Unless otherwise specified use torque values listed above

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