BER0054

INSTRUCTION SHEET **TRANSFER CASE**

APPLICATION: ROBUST SNOWBLOWER 74" SBG2074 and SBG2080

INSTALLATION

IMPORTANT: The transfer case does not contain any oil. It must be filled with either SAE 80W90 oil, AGMA 5EP extreme pressure oil or the equivalent. If the transfer case is operated without any oil the warranty will be nullified.

Support Bracket Uninstallation

Figure 1: On each side, remove the support brackets (items 1 & 6) by removing the two 1/2"NC x 1 1/2" hex bolts, 1/2" (9/16" hole) flat washers, 1/2" lock washers and 1/2"NC nylon insert locknuts (items 2 to 5). Keep the hardware.

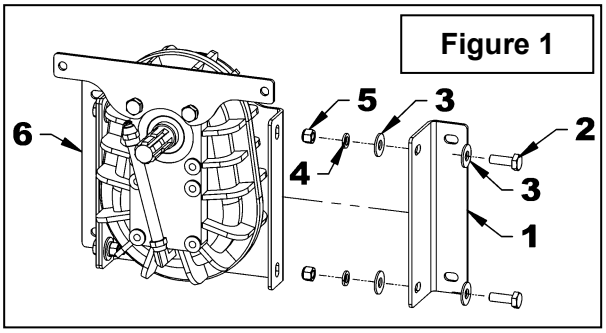


Figure 1

Transfer Case Installation

1. Park the tractor on a flat surface, put in neutral, put on the parking brake, disengage the PTO, lower the snowblower to the ground, turn off the engine and remove the ignition key.
2. Remove the snowblower from the tractor.
3. **Figure 2:** Remove the snowblower driveline protector (item 1) by removing the two 7/16"NC x 1" hex bolts and nylon insert locknuts (items 2 & 3). Keep parts.
4. **Figure 3:** Place the bent section of the support brackets toward the inside and attach the support fixations (items 1) to the gearbox support plates of the snowblower with four 1/2"NC x 1 1/2" hex bolts (item 2), 1/2" (9/16" hole) flat washers, 1/2" lock washers and 1/2"NC nylon insert locknuts (items 3 to 5). Slightly tighten the bolts to allow brackets movement.

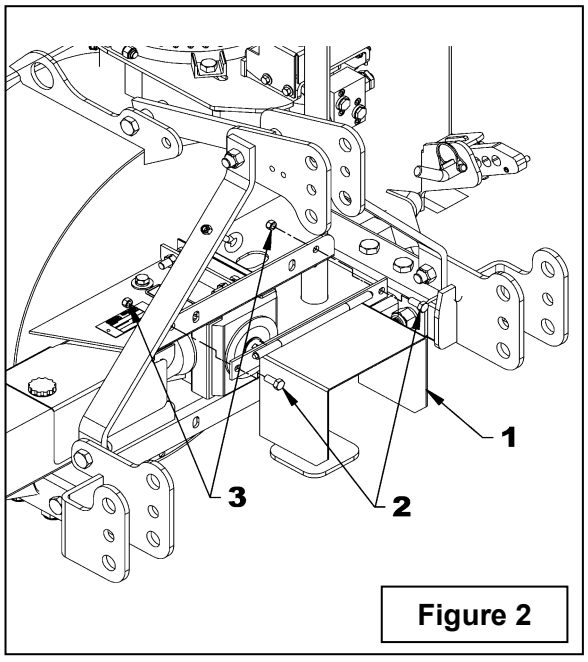


Figure 2

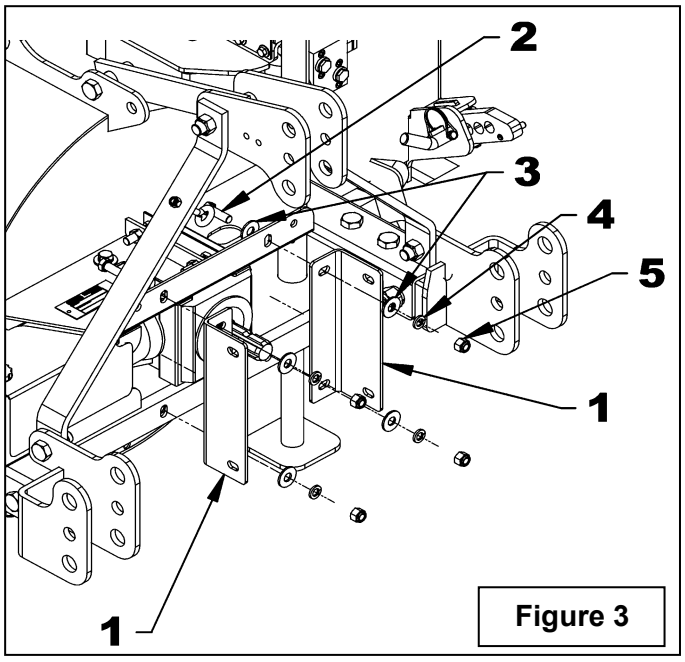


Figure 3

INSTRUCTION SHEET

TRANSFER CASE

ATTENTION: The assembled transfer case is heavy; it is therefore recommended to install wooden blocks under the snowblower's input shaft to support the transfer case during installation.

5. **Figure 4:** Slide the transfer case female part (item 1) on the snowblower gearbox shaft by placing the plate between the brackets installed previously. Push the transfer case toward the front of the snowblower to be sure it is well rested against the snowblower.
6. **Figure 4:** Attach with four 1/2"NC x 1 1/2" hex bolts, four 1/2" (9/16" hole) flat washers (items 2 & 3) outside the brackets, and four 1/2" (9/16" hole) flat washers, 1/2" lock washers and 1/2"NC nylon insert locknuts (items 3 to 5) inside the plate as shown on figure. Slightly tighten the bolts.
7. Tighten the four bolts of the brackets installed previously on step 4 to the snowblower at 88 ft-lb (119N-M) then tighten the bolts of the transfer case sub-assembly at 88 ft-lb (119N-M).
8. **Figure 5:** Reinstall the snowblower driveline protector (item 1) removed previously on step 3 on the transfer case plate with the same bolts and nuts as shown on figure.
9. Replace the driveline shear bolt M10 X 1.5 x 55mm lg gr.8.8 Plated nut included (part# 657199), by a shear bolt M10 X 1.5 x 55mm lg gr.5.8 Plated nut included (part# 669405).

IMPORTANT: Before installing the driveline, it is very important to recheck its length to ensure it is not too long. This operation is necessary since the snowblower input shaft is now closer to the tractor. Refer to step 10 below or to the snowblower's manual for more details.

10. **Figure 6:** Cut the driveline according to the dimensions determined with the following step and install the driveline on the snowblower with the original hardware as shown on figure 6.

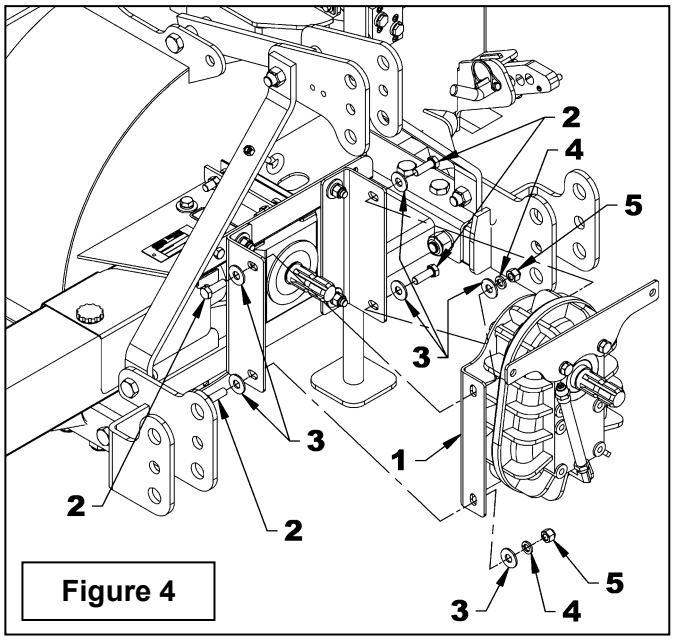


Figure 4

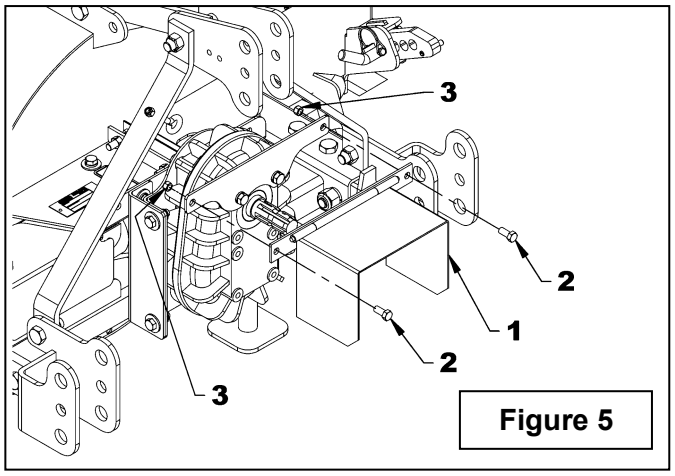


Figure 5

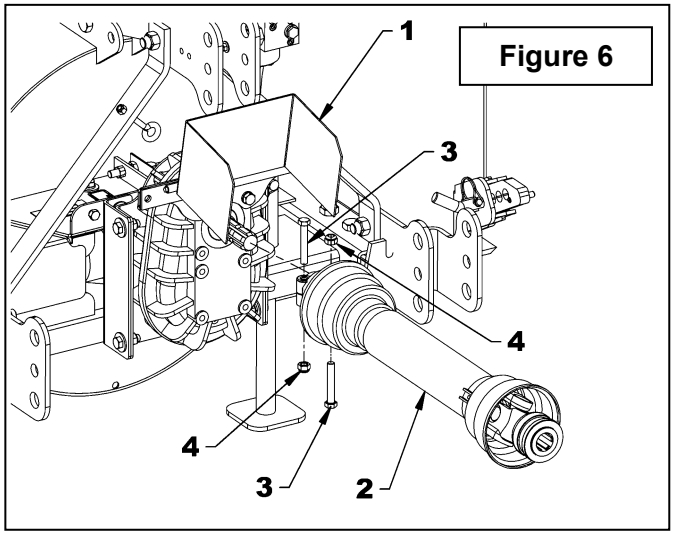


Figure 6

IMPORTANT:

A proper initial installation will give you years of satisfactory service on your equipment. Please read carefully following instructions that have been specially included to help you and ensure you are satisfied with your purchase.

WARNING: Unfortunately, snowblowers will be faced with forgotten or hidden objects under the snow, such as chain, tires, stones, pieces of wood, etc. In spite of all our efforts, machines are not built to resist all those conditions.

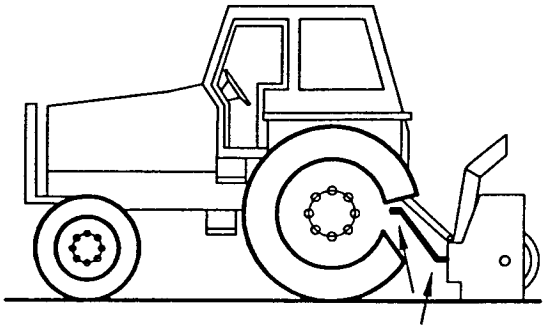
How to Determine Driveline Angles

IMPORTANT: To obtain the proper universal joint angles, it is recommended to adjust the three point hitch at the furthest point from the tractor recommended by the manufacturer

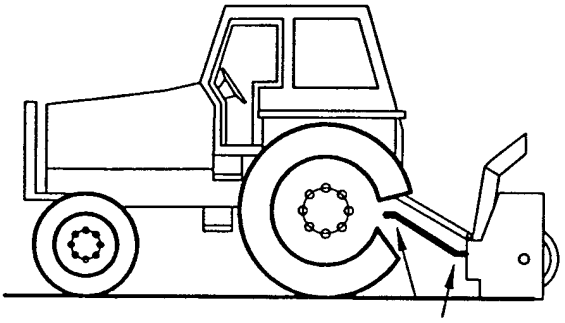
Danger: Tractors Too Big

It is dangerous to use a tractor that is too big and powerful. The tractor will always be able to overload the blower, even if the machine is already at maximum capacity. Furthermore, tractors being very high, the driveline angles will be excessive which means the universal joints will be very vulnerable and the life of the driveline will be dramatically reduced.

The universal joint angle is directly related with the life of driveline. In order to reduce the angle, it is necessary to increase the distance between the snowblower and the tractor.



Angles of Driveline Joints Too Large Avoid



Reasonable Angles of Driveline Joints Acceptable

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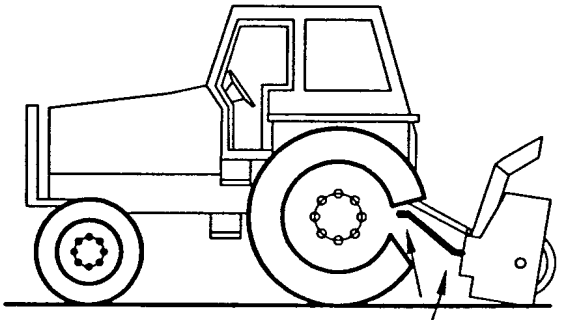
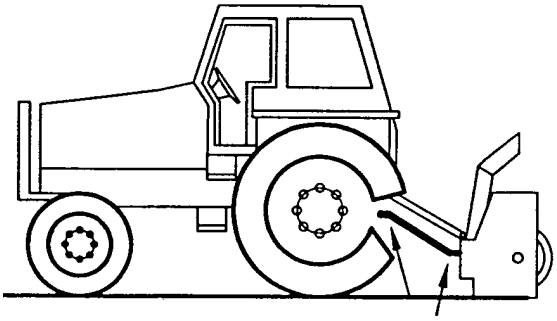


Unequal Angles at Driveline Joints Avoid



Equal Angles at Driveline Joints Recommended

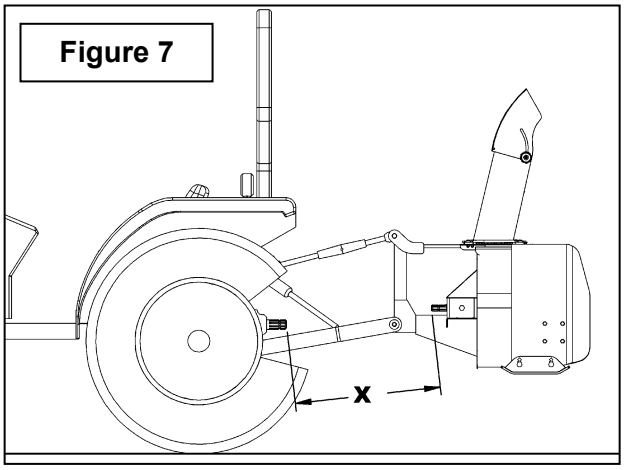
Angles at Each End of Driveline

A popular habit is to change the snowblower angle in order to obtain a better scraping effect. This practice can become harmful to the driveline since the angle at each end is unequal. This results in a fan speed variation as well as a drastic increase of load on cross and bearings. To be avoided: It is recommended to always keep tractor driveline and snowblower input shaft parallel.

Determining Driveline Length

IMPORTANT: Before using the equipment, make sure the driveline is not too long. At working position, the two half drivelines must intersect each other sufficiently to insure maximum efficiency but there must not be any interference.

1. To determine the **"L"** length for your tractor model first find the **" X"** (figure 7) factor by measuring the horizontal distance between the end of the tractor's drive shaft and the end of the snowblower's driven shaft when the snowblower is in transport position as shown on Figure 7.
2. In the table below choose the **"Y"** factor according to the tractor category and deduct that number from **" X"** (figure 7) to determine **"L"** (figure 8) which is the center-to-center length between the universal joints.



L = X – Y	
3 PTS HITCH CATEGORY	Y
Cat. 1	4 1/2"
Cat. 2	5 1/2"

NOTE: Before cutting, make sure the two shafts intersect by at least 7 3/4" when in working position that is when the snowblower rests on the ground.

3. **Figure 8:** Hold the two half-shaft side by side and locate the **"L"** length between the two center-to-center half-shaft universal joints. Mark off the zone to be cut on both halves opposite each half-shaft guard as shown on figure 8.
4. **Figure 8A:** Cut off inner and outer guard tubes as well as the inner and outer telescopic sections.
5. **Figure 8A:** Cut the guard a second time leaving the same distance between the end of the guard and the end of the shaft as existed before. To obtain the proper distance "A" shown on figure 8A, cut the guard according to the following table:

DISTANCE A	
Male PTO	**Female PTO**
2"	1 1/2"

6. **Figure 8A:** File down tubes and remove chips.
7. Apply grease to inside of outer telescopic section.

IMPORTANT: Work with fully guarded shafts only!

Figure 8A

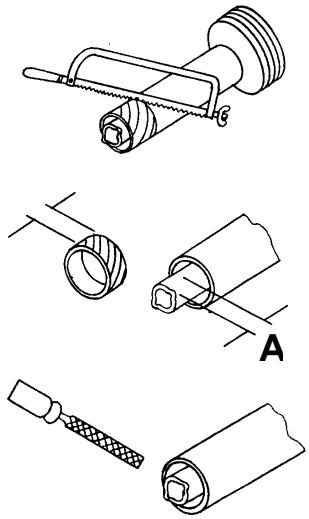
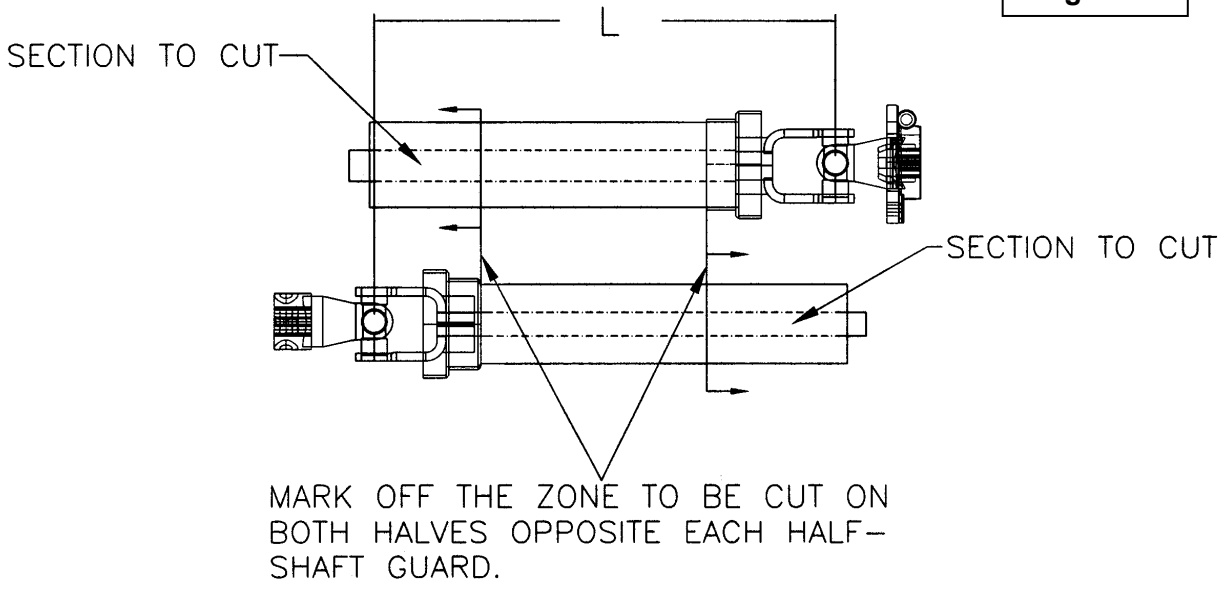
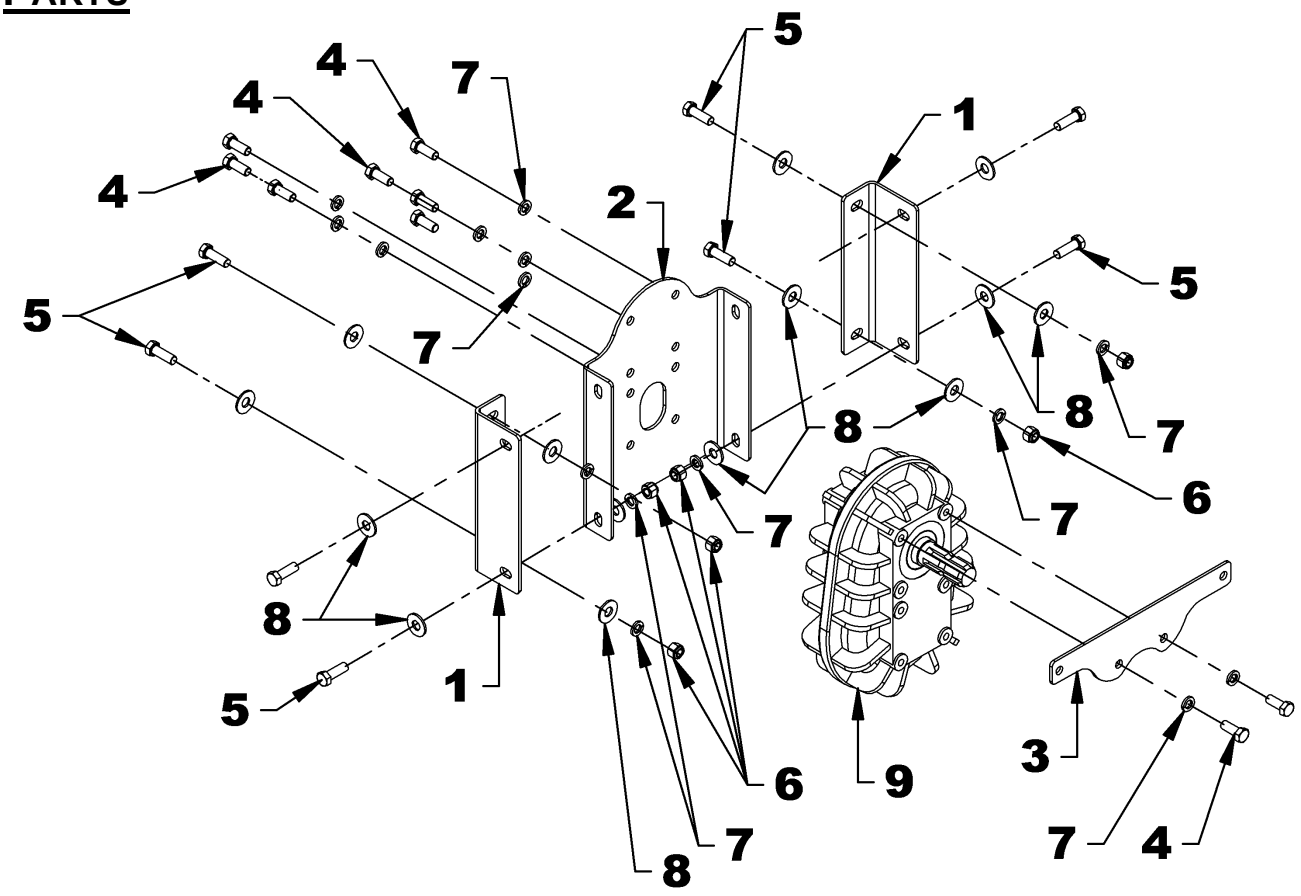


Figure 8



PARTS



REF.	DESCRIPTION	QTY	PART #
1	Support bracket	2	669052
2	Transfer Case Support	1	669053
3	Driveline shield bracket	1	669054
4	Bolt hex. 1/2" NC x 1 1/4" gr.5 Plated	10	0100069
5	Bolt hex. 1/2" NC x 1 1/2" gr.5 Plated	8	0100070
6	Nylon insert locknut 1/2"NC	8	1000011
7	Lock washer 1/2" Plated	19	1200006
8	Flat washer 1/2" (9/16" hole) Plated	16	1400006
9	Transfer Case 1000 @ 555 - 1 3/8" 6 splines	1	4500117
-	Shear bolt M10 X 1.5 x 55mm lg gr.5.8 Plated nut included (driveline)	1	669405

TRANSFER CASE – BER4500117

REF.	DESCRIPTION	QTY	PART #
1	Half casing	1	-----
2	Half casing + 3 NPT	1	-----
3	Gear 20 teeth	1	4500128
4	Gear 36 teeth	1	4500113
5	Adaptor	1	4500093
6	Roller bearing metric	4	4300077
7	Oil seal metric	2	4300093
8	Snap ring	2	4500130
9	Dowell pin	2	4500098
10	Bolt hex. 3/8"NC x 1 1/2"	8	0100040
11	Stover lock nut 3/8"NC	8	1100003
12	Allen Plug 3/8"NPT Plated	1	656090
X	Pressure output kit including #13-14-15	1	4500129
13	- Elbow 90°	1	Incl. in # X
14	- Nipple	1	Incl. in # X
15	- Adapter	1	Incl. in # X
16	Breather 1/8"NPT	1	654927