



Low Profile Cylinder

TSLC Series

**Capacities
5 through to 150 tonne**

**Note: Operator must read and fully
understand the operating instructions
before using this product.**

Products supplied comply with the essential health & safety requirements of the Machinery Directive 2006/42/EC, the Supply of Machinery (Safety) Regulations 2008 and the Health & Safety at Work etc Act 1974 section 6.

George Taylor & Company maintain a policy of progressive development of products and reserve the right to alter, without notice, the specifications shown within this manual.



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FOREWORD

This information in this manual is provided for the proper handling, operating, maintenance & general troubleshooting for Low Profile Cylinder - TSLC.

The cylinder has been designed with safety as a primary consideration and being the most efficient of the cylinders under your intended use, in accordance with the procedure detailed in this manual.

Before attempting to operate or service the product, carefully read this manual thoroughly and understand fully for your own safety and the efficiency of the product.

This manual and any other documents supplied with this product, are the property of Tecpos which reserves all right. They may not be reproduced in whole or in part, without prior written approval from Tecpos.

The product warranty will be void if any modifications to the product or using non-compatible oil is carried out without prior written approval from Tecpos.

Tecpos reserves the right to make changes to this manual contents described in it without notice. All specifications and information concerning products are subject to change without notice.

SAFETY WARNINGS

Safety warnings are defined in this manual as 'Danger', 'Warning' and 'Caution'. These regulations should be observed to ensure the prevention of personnel injury and damages or malfunctions or the product.

Please pay close attention to these signs, since they may indicate a potential hazard that may result in death, serious personal injuries or damages to the cylinder.

DANGER

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

WARNING

Indicates a potential hazardous situation which if not avoided, can result in death or serious injury.

CAUTION

Indicates a potential hazardous situation which if not avoided, will result in minor or moderate injury, or alerts against unsafe damage to the product.

The information in this publication does not cover all unexpected hazardous incidents. The manufacturer is not liable for incidental or consequential damages in connection with incorrect use of a product and not fully understanding the safety instructions within this manual.

FOR THIS MANUAL

The information in this manual is provided for reference and is believed to be accurate and complete. GT is not liable for incidental or consequential damage in connection with furnishing or use of the information in this manual, including but not limited to:

- Before each intervention on this product or unpacking, read this manual and ensure you fully understand before use.
- This manual should be read and understood fully before initial start up/operating and servicing the product by the assigned person to work the product.
- This manual can be used to assist/prepare on training of personnel, for proper and safety product operation & higher operation efficiency as well as constant maintenance of the product.
- If more than one operator is used, each operator shall be aware of the contents within this manual.
- The manufacturer does not hold any responsibility for damage to the product itself or injuries to the user arising out of incorrect use and not fully understanding the safety instructions described in this manual.
- This manual should be available to serve as a reference document for everyone who can see with ease, in an easily accessible location nearby the product that is in operation.
- To ensure the manual can always be read with ease, it is recommend that the manual is to always be kept in a very clean condition. if the condition of the manual is not clean or readable, you must advise your supervisor for corrective action.
- if this manual is not understood fully by the assigned personnel, it has to be informed to your supervisor for corrective action.

TECPOS[®]

Technology Power System

Hydraulic Cylinders

CE

UK
CA

Model: **TSLC1011**

Capacity

Tonnes

Stroke

PLEASE READ OPERATING INSTRUCTIONS BEFORE USE

Max Working Pressure 700 Bar

www.tecpos.com

LABEL OBSERVATIONS

- The label is of appropriate size and colours containing the specified information of the rating of the product.
- Keep label clean so that the operator can read them clearly. If the label becomes soiled, clean it immediately.
- Never remove the label and if it does come off, re-affix it at its original position.
- Label contains critical information which must be strictly observed by all operators, failure to keep this information can result in serious accidents.
- If critical information on the label is not understood, advise your supervisor for corrective action.

FOLLOWING OBLIGATION

1. All procedures in this manual must be carried out by properly trained and informed personnel only for this product.
2. Never damage, remove or relocate any parts of the safety devices and protective components without written permission from GT, doing so could result in serious personnel injury or death.
3. Do not operate the cylinder if it appears to be running abnormally.
4. Never place your hands or feet nearby the cylinder during use.
5. The manual should be kept in a well known and easy access area.
6. Never modify the product in any way as it voids the warranty automatically and may decrease the safety of the product.
7. The safety instructions inside this manual must be obliged strictly by the user operating the product.
8. If you find the product to be malfunctioning, or not operating as it should; put out of use immediately in a safe manner and contact your supervisor on corrective action.
9. Never use the item if its operation appears to be malfunctioning.
10. Never attempt to service/repair the product without a Tecpos qualified technician.

Application

This, Low Profile Cylinder, as Hydraulic Cylinder, is intended for lifting work when you lift an object of heavy weight on; bridge construction, shipbuilding industry, construction work etc. Low Profile Cylinders are designed for narrow spaces or limited heights with minimum height and optimum stroke.

This, Low Profile Cylinder can be connected with high pressure hose, hand pump or hydraulic motor pump and will be operated for its purpose.

This cylinder should not be used for other purpose against the specified application within this manual.

Product Code	Cylinder Capacity t	Stroke mm	Cylinder Effective Area cm ²	Oil Capacity cc	Weight kgs
TSLC56	5 (42kN)	6	6.16	3.7	0.7
TSLC516	5 (42kN)	16	6.16	9.9	0.8
TSLC1011	10 (105kN)	11	15.2	16	1.5
TSLC2011	20 (198kN)	11	28.3	31	2.7
TSLC3013	30 (292kN)	13	41.85	53	4.1
TSLC5016	45 (424kN)	16	60.8	99	6.8
TSLC7516	75 (726kN)	16	103.87	164	11.2
TSLC10016	90 (885kN)	16	126.7	203	14.3
TSLC15016	150 (1405kN)	16	201	317	25

TRANSPORTATION

1. The overall weight of the product per model is to be indicated previous "Specifications" in this manual and this is to refer to transportation work.
2. The transporting process requires at least, more than two people for the heavyweight, more than 25 kgs of product. If not, you can be severely injured or crushed during transportation work.
3. In case of using a wooden pallet with several products, using a forklift having sufficient capacity in order to lift the pallets weight safely.

INSTALLATION & STORAGE

Install the product under the following environmental conditions:

1. Inspect the product visually during unpacking process and check for any transit damage.
2. If you find a damaged product, contact the supplier for further instructions.
3. Install the product in a position where it avoids rain or snow.
4. Store the product in a dry clean condition.
5. Keep the product away from exposed sea water, rain water or moisture and store the product at a place with fresh air and sealed away properly.
6. The cylinder should be installed on flat even ground and working. Do not weld or modify the cylinder in order to join into the floor or attach at other supporting structures.
7. The installation work should be stopped on abnormal and unsafe operation arising out of incorrect installation.

INSTALLATION PROCEDURE

1. Place the object of heavy weight on the centre plunger of cylinder. When the object of heavy weight is not put on the centre, the cylinder can be seriously damaged. Also, the object of heavy weight may slip and fall, resulting in severe incident.
2. When connecting the cylinder with the hydraulic hose, the coupler female setting nut should be connected to the hose male fully.

OPERATION

Ascertain the below items before operation:

1. Ascertain the condition of cylinder installation before lifting work.
2. Check the specifications on the label of cylinder with actual condition.
3. Check the connecting conditions of the connecting devices.

WARNING

Forcing wrong specifications and connection devices together will damage the cylinder and possibly yourself.

TRAIL PRESSURE TEST PERFORMANCE

This product is completely assembled, tested and inspected in the factory before distribution. The testing value is 700 kg.f/cm²

Pressure test & gauge view



CAUTION

Wear personal protective equipment correctly such as gloves, steel toe cap shoes etc. when using hydraulic equipment, otherwise injury by hydraulic oil may occur.

Keep hydraulic tools arranged clearly.

WARNING

Keep your hands and feet away from the working area of the cylinder, otherwise it may result in serious injury.

DANGER

Never exceed the specified capacity of the cylinder in use. The cylinder is originally designed with the maximum pressure of 700 kg.f/cm².

WARNING

Prevent hydraulic hose from damage. The hydraulic hose should not be twisted or folded, especially if oil is flowing. If the hose is twisted or folded it may result in severe back pressure, damage to hose, shorten the life of the hose and cause internal damage.

CAUTION

Do not put lifting object or heavy weight on the hose. The hose is not designed to withstand external weight and can cause serious injury.

Upon moving hydraulic equipment, do not hold the hose or coupler for movement. Use the handle.

Do not place the hydraulic equipment near open flames or overheating areas. The packing and sealing inside the cylinder will soften and cause oil leakage. Excessive heat will weaken the hose itself and materials within.

CAUTION

Do not touch your skin after working with oil. The oil out of the cylinder may seep into your skin and result in severe condition. Ensure any oil residue is completely cleaned of your skin after use, as if left on can be hazardous to your health. If health is affected due to poor care when working with oil, seek medical attention.

The hydraulic cylinder should be operated only under assembling the system completely. In case of not connecting the coupler, the cylinder should not be operated. If the cylinder is given a high load, it may result in severe incidents.

WARNING

Ascertain the condition of cylinder installation before lifting work. The cylinder should be installed on flat even ground and fixed securely at the operating location. Do not weld or modify the cylinder in order to join into the floor or attach to other supporting structures.

Ensure worn parts are exchanged with new Tecpos parts immediately before putting cylinder back into use. When the parts are exchanged they must be genuine Tecpos parts approved by the manufacturing factory.

CAUTION

Do not use the electrical pump under explosive environmental condition. The electrical pump should be installed and transformed by the electrical technician only.

Tecpos products should only be serviced, repaired or adjusted by Tecpos approved agents.

In case the cylinders retracting slowly, this can be caused by broken seal and backup rings, alarm other workers around the area and avoid. Once cylinder has been safely put out of service, repair immediately.

USING HAND PUMP

1. Connect the male thread coupling to the female thread.
2. Open the Air Valve counterclockwise.
3. Close the Handle clockwise.
4. Lift up to the desired height by the lever.

USING MOTOR PUMP

1. Connect the electrical power to the pump.
2. Ascertain the working direction.
3. Lift up to the desired height by the manual lever or remote switch.

MAINTENANCE

Ensuring regular maintenance on the product is critical, to ensure proper operation of its components and longer lasting life. The frequency of maintenance procedures depend on it's usage.

1. Clean all dust.
2. Clean all contact parts with clean dry cloth.
3. The damaged parts and the cause of the problem have to be recorded on the product history for traceability.
4. Sufficient pre-operation is require before putting the product into use.

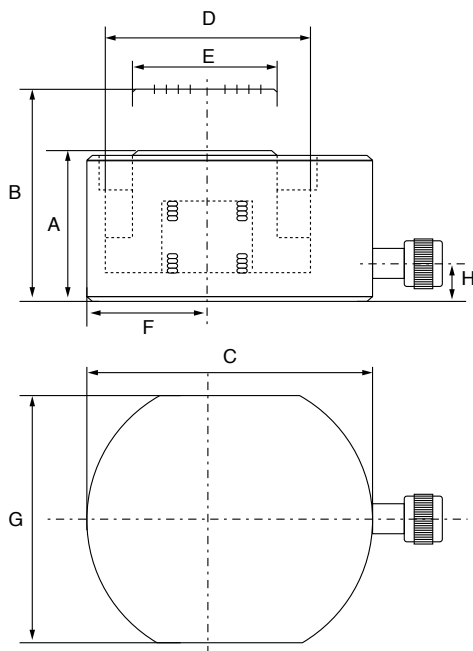
DAILY CHECKING

1. Check the leakage of oil from inside the cylinder.
2. Check foreign material on the rod of the cylinder.
3. Check contamination condition on the head of the cylinder.
4. Check foreign material on the female coupler of the cylinder.

Status	Causes	Measures
No retraction movement from Cylinder	Coupler ring is loose, caused by extended usage or defective assembling	1. Long time using: exchange with a new one. 2. Defective assembling; assemble again correctly.
	Defective surface wall inside the cylinder due to innacurate vertical piston motion.	Contact manufacturer for repair
	Upper piston rod size enlarged due to extended usage	1. Exchange with a new one. 2. Grind the upper side of the piston rod.
No extension movement from Cylinder	Extension movement less than desired height due to the tolerance size of the inner cylinder dia caused by extended usage	Contact manufacturer for repair

Specifications

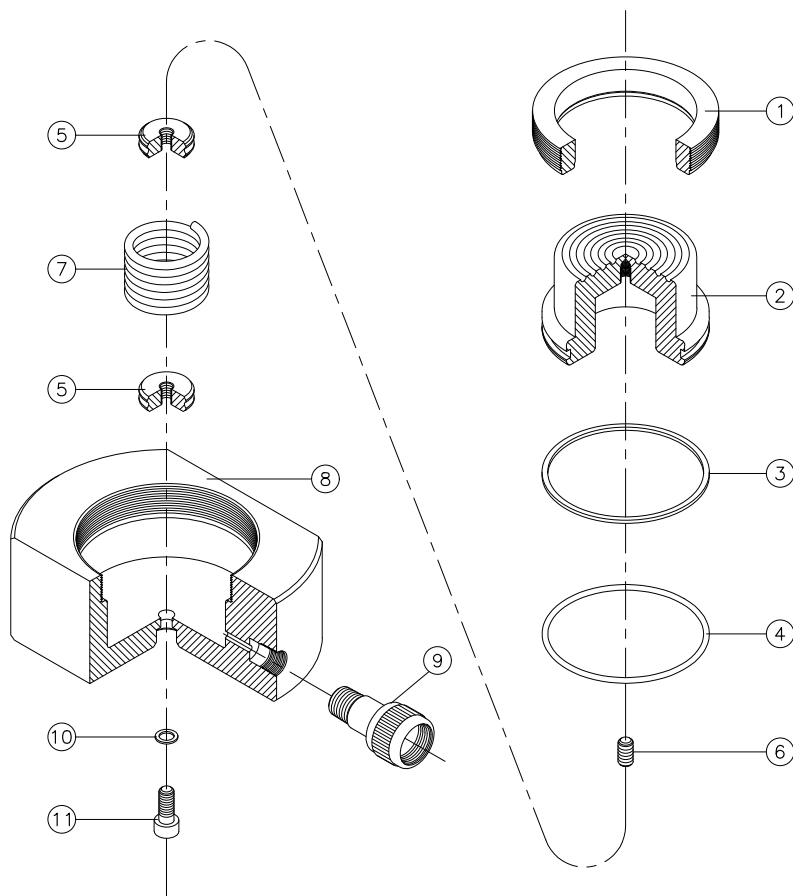
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Product Code	Cyl. Cap.	Stroke	Cyl. Effective Area	Oil Cap.	Retracted Height	Extended Height	Cyl. Out Dia	Cyl. Bore Dia	Piston Rod Dia	Plunger to Base	Cylinder Dim.	Base to Inlet Port	Weight	Pump
	t	mm	cm ²	cc	A	B	C	D	E	F	G	H	kgs	
TSLC56	5 (42kN)	6	6.16	3.7	40	46	59	28	25	21.5	42	21	0.7	1B or 08
TSLC516	5 (42kN)	16	6.16	9.9	40	56	59	28	25	21.5	42	20	0.8	
TSLC1011	10 (105kN)	11	15.2	16	45	56	84	44	38	28.5	56	21	1.5	
TSLC2011	20 (198kN)	11	28.3	31	52	63	102	60	54	42	76	21	2.7	
TSLC3013	30 (292kN)	13	41.85	53	59	72	115	73	64	48	95	21	4.1	1C or 17
TSLC5016	45 (424kN)	16	60.8	99	67	83	139	88	75	57.5	114	21	6.8	
TSLC7516	75 (726kN)	16	103.87	164	79	95	165	115	85	70	140	21	11.2	
TSLC10016	90 (885kN)	16	126.7	203	86	102	179	127	95	77.5	152	25	14.3	
TSLC15016	150 (1405kN)	16	201	317	100	116	215	160	115	97	190	24	25	

Breakdown List TSLC56, TSLC516

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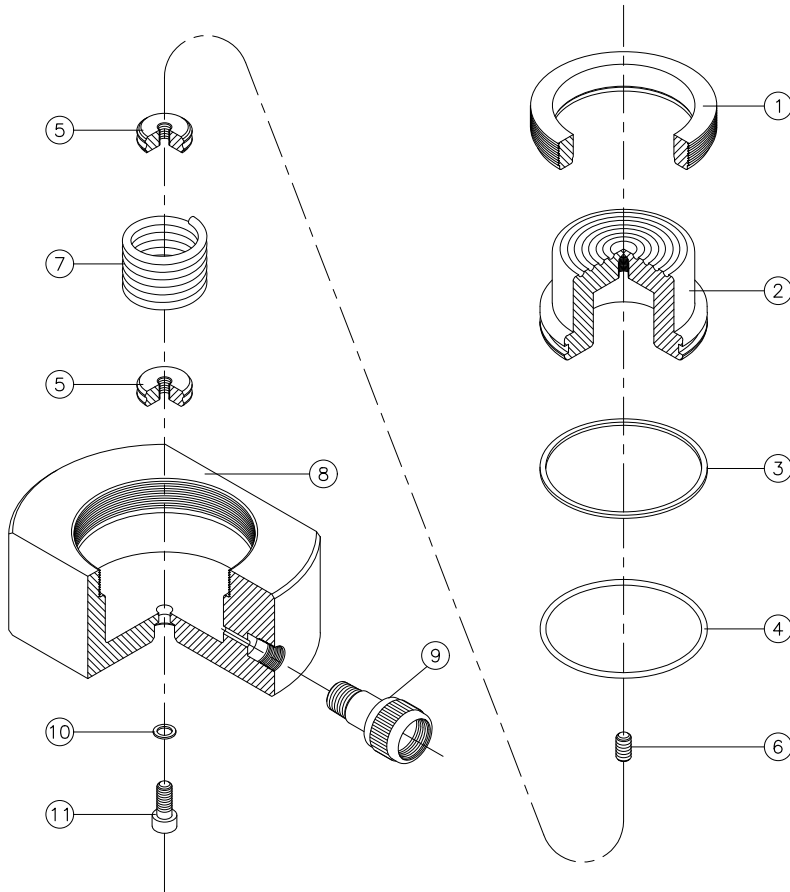


1.	05A-01	Cover Nut
2.	05A-02	Piston
3.	BP-22A	Backup Ring
4.	OP-22A	O-Ring
5.	05A-05	Spring Bolt
6.	SWB6-10	Set Screw

7.	05A-07	Extension Spring
8.	05A-08	Cylinder Body
9.	36B-00	Coupler
10.	BW6-1	Washer - Copper
11.	WB6-10	Wrench Bolt

Breakdown List TSLC1011

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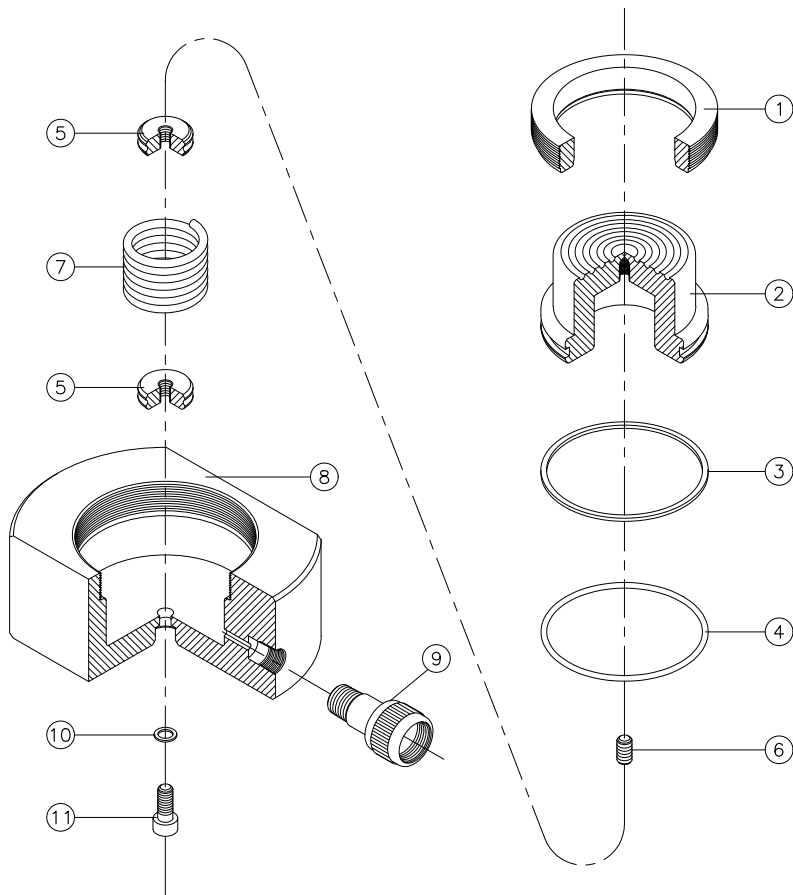


1.	05B-01	Cover Nut
2.	05B-02	Piston
3.	BP-38	Backup Ring
4.	OP-38	O-Ring
5.	05B-05	Spring Bolt
6.	SWB6-12	Set Screw

7.	05B-07	Extension Spring
8.	05B-08	Cylinder Body
9.	36B-00	Coupler
10.	BW6-1	Washer - Copper
11.	WB6-14	Wrench Bolt

Breakdown List TSLC2011

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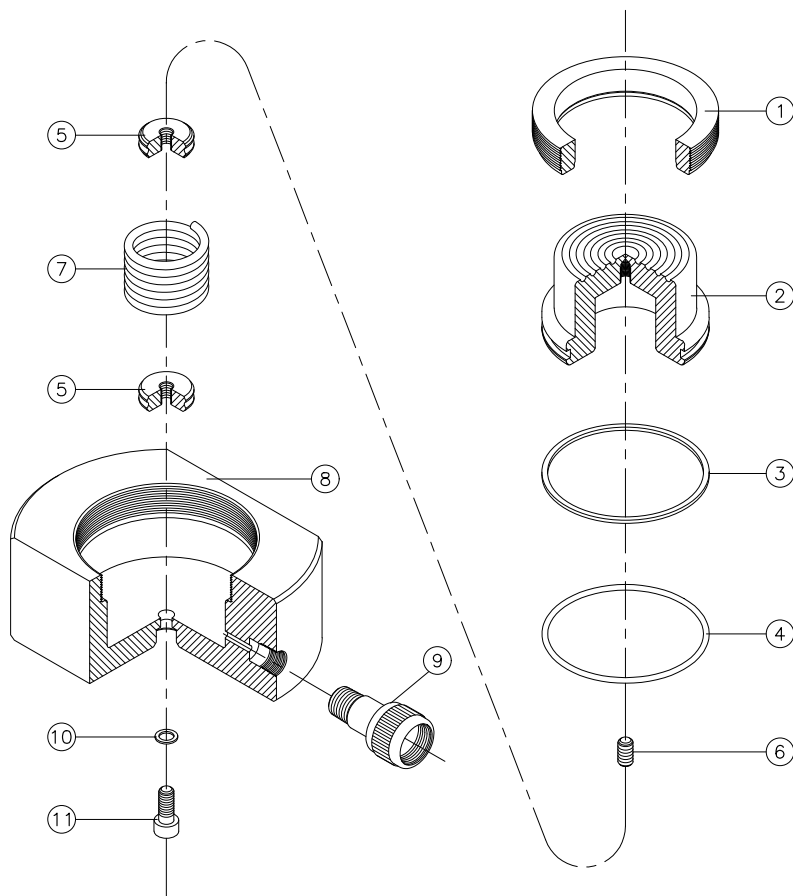


1.	05C-01	Cover Nut
2.	05C-02	Piston
3.	BU-227	Backup Ring
4.	OU-227	O-Ring
5.	05C-05	Spring Bolt
6.	SWB8-15	Set Screw

7.	05C-07	Extension Spring
8.	05C-08	Cylinder Body
9.	36B-00	Coupler
10.	BW8-1	Washer - Copper
11.	WB8-20	Wrench Bolt

Breakdown List TSLC3013

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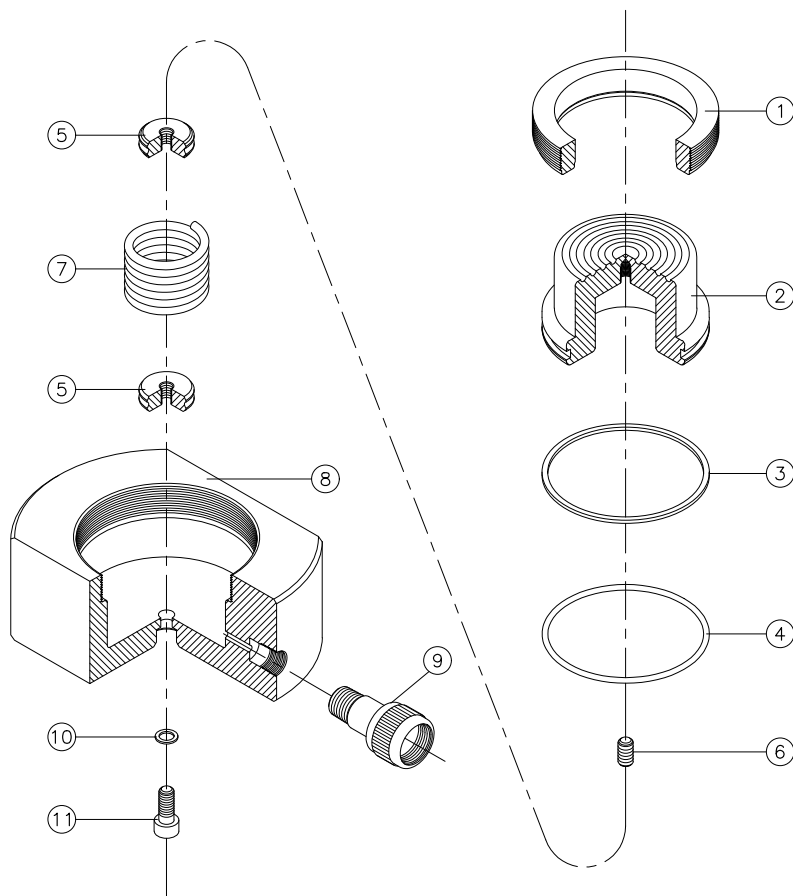


1.	05D-01	Cover Nut
2.	05D-02	Piston
3.	BU-232	Backup Ring
4.	OU-232	O-Ring
5.	05C-05	Spring Bolt
6.	SWB8-15	Set Screw

7.	05D-07	Extension Spring
8.	05D-08	Cylinder Body
9.	36B-00	Coupler
10.	BW8-1	Washer - Copper
11.	WB8-20	Wrench Bolt

Breakdown List TSLC5016

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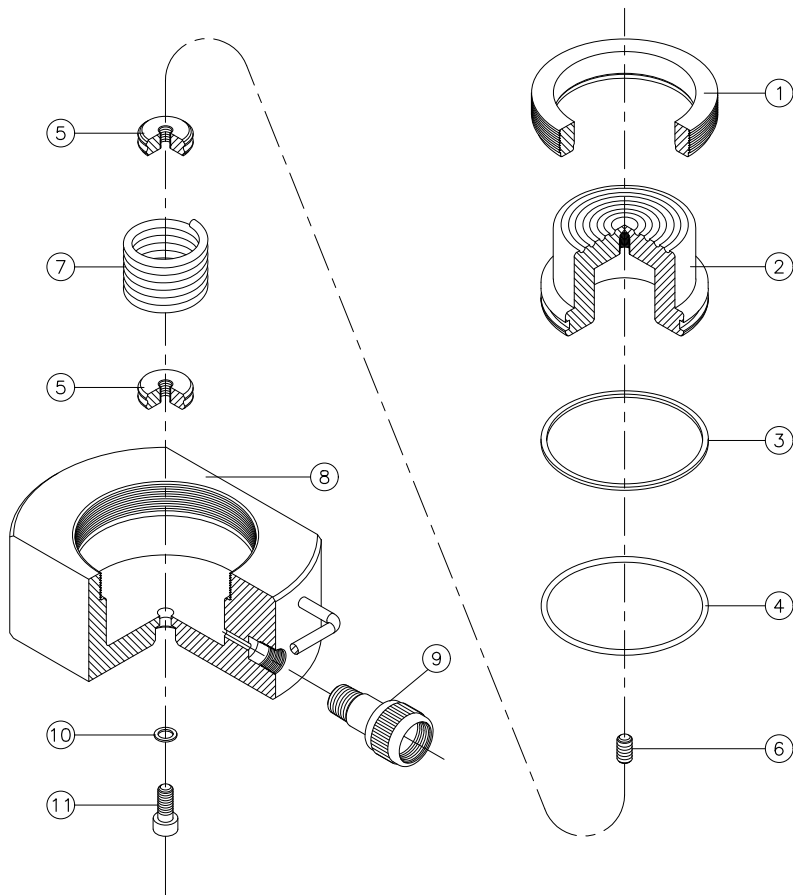


1.	05E-01	Cover Nut
2.	05E-02	Piston
3.	BU-236	Backup Ring
4.	OU-236	O-Ring
5.	05E-05	Spring Bolt
6.	SWB8-15	Set Screw

7.	05E-07	Extension Spring
8.	05E-08	Cylinder Body
9.	36B-00	Coupler
10.	BW8-1	Washer - Copper
11.	WB8-15	Wrench Bolt

Breakdown List TSLC7516

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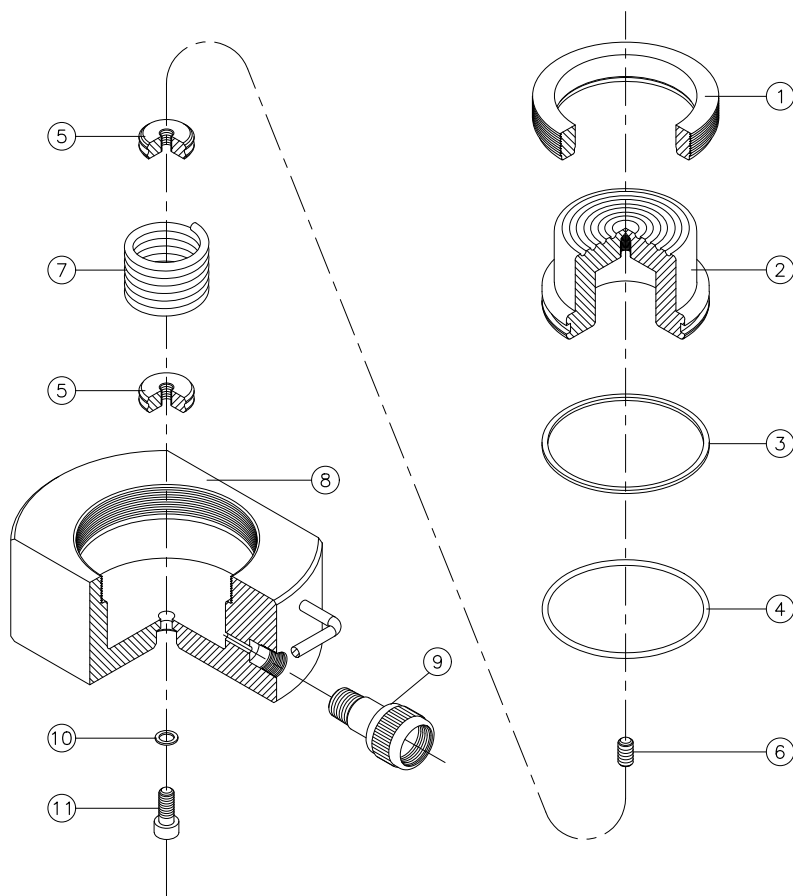
1.	05F-01	Cover Nut
2.	05F-02	Piston
3.	BP-105	Backup Ring
4.	OP-105	O-Ring
5.	05E-05	Spring Bolt
6.	SWB8-20	Set Screw

7.	05F-07	Extension Spring
8.	05F-08	Cylinder Body
9.	36B-00	Coupler
10.	BW8-1	Washer - Copper
11.	WB8-20	Wrench Bolt

Breakdown List

TSLC10016

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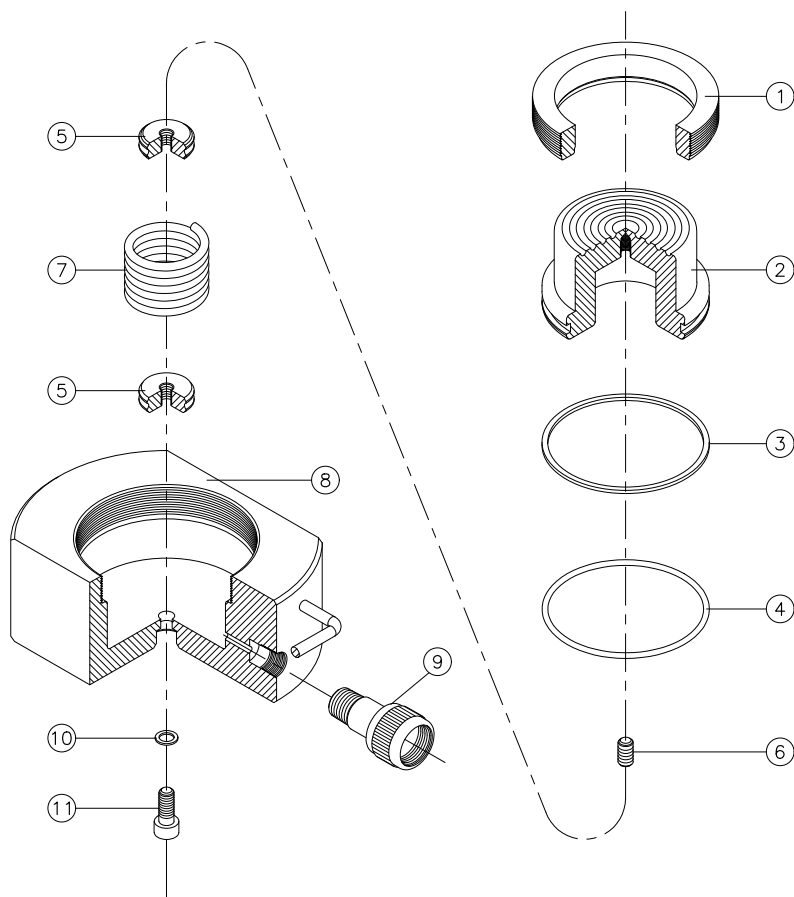
1.	05G-01	Cover Nut
2.	05G-02	Piston
3.	BP-115	Backup Ring
4.	OP-115	O-Ring
5.	05G-05	Spring Bolt
6.	SWB10-20	Set Screw

7.	05G-07	Extension Spring
8.	05G-08	Cylinder Body
9.	36B-00	Coupler
10.	BW10-1	Washer - Copper
11.	WB10-25	Wrench Bolt

Breakdown List

TSLC15016

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1.	05H-01	Cover Nut
2.	05H-02	Piston
3.	BP-150	Backup Ring
4.	OP-150	O-Ring
5.	05G-05	Spring Bolt
6.	SWB10-20	Set Screw

7.	05H-07	Extension Spring
8.	05H-08	Cylinder Body
9.	36B-00	Coupler
10.	BW10-1	Washer - Copper
11.	WB10-20	Wrench Bolt