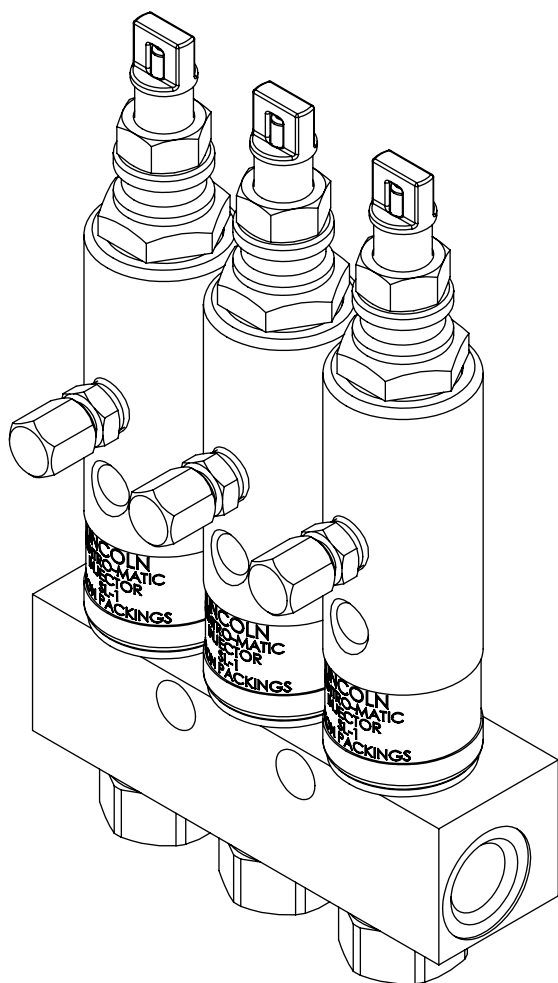


SL-1 injector

Model 81770-1,-2,-3,-4,-5 and -6, series "H"
Replacement injector models 81713 and 81713A



Date of issue	January 2020
Form number	404456
Version	3

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* Indicates change.

EC Declaration of Incorporation*

Manufacturer: SKF
5148 N. Hanley Road
St Louis, MO U.S.A.
URL: SKF.com
Phone: 314-679-4200

EU Contact: SKF
Heinrich-Hertz-Straße 2-8
69190 Walldorf
Phone: 49 (0) 6227-33259

Product: SL-1 injectors
Description: Metering valve
Models 81770-1, 81770-2, 81770-3, 81770-4, 81770-5 and 81770-6, and replacement injector models 81713 and 81713A
Year of construction: *see type identification plate*
complies with all basic requirements of the following directives at the time when first being launched in the market.

Report No.'s: NA

The equipment indicated on this declaration complies with the following directives:

Machinery Directive 2006/42/EC

And was evaluated using the following harmonized EN standards:

EN ISO 12100:2010, EN ISO 4413:2010, EN 349

SKF declares under its sole responsibility that the

SL-1 injector models 81770-1, 81770-2, 81770-3, 81770-4, 81770-5 and 81770-6, and replacement injector models 81713 and 81713A conform with the Machinery Directive 2006/42/EC.

In the case of modifications or alterations of the above mentioned machine not authorized by the manufacturer, validity of this EC Declaration of Conformity will cease. The person empowered to assemble the technical documentation on behalf of the manufacturer is the head of standardization;
see EC-representative's address.

Brad Edler



Manager Product Development
Product Engineering LPD North America
Innovation and Product Management
January 2020

* Indicates change.

Safety

Read and carefully observe these operating instructions before unpacking and operating equipment. Equipment must be operated, maintained and repaired exclusively by persons familiar with operating instructions. Local safety regulations regarding installation, operation and maintenance must be followed.

Operate equipment only after safety instructions and this service manual are fully understood.

Safety signal words

NOTE

Emphasizes useful hints and recommendations as well as information to prevent property damage and ensure efficient trouble-free operation.

⚠ CAUTION

Indicates a dangerous situation that can lead to light personal injury if precautionary measures are ignored.

⚠ WARNING

Indicates a dangerous situation that could lead to death or serious injury if precautionary measures are ignored.

⚠ DANGER

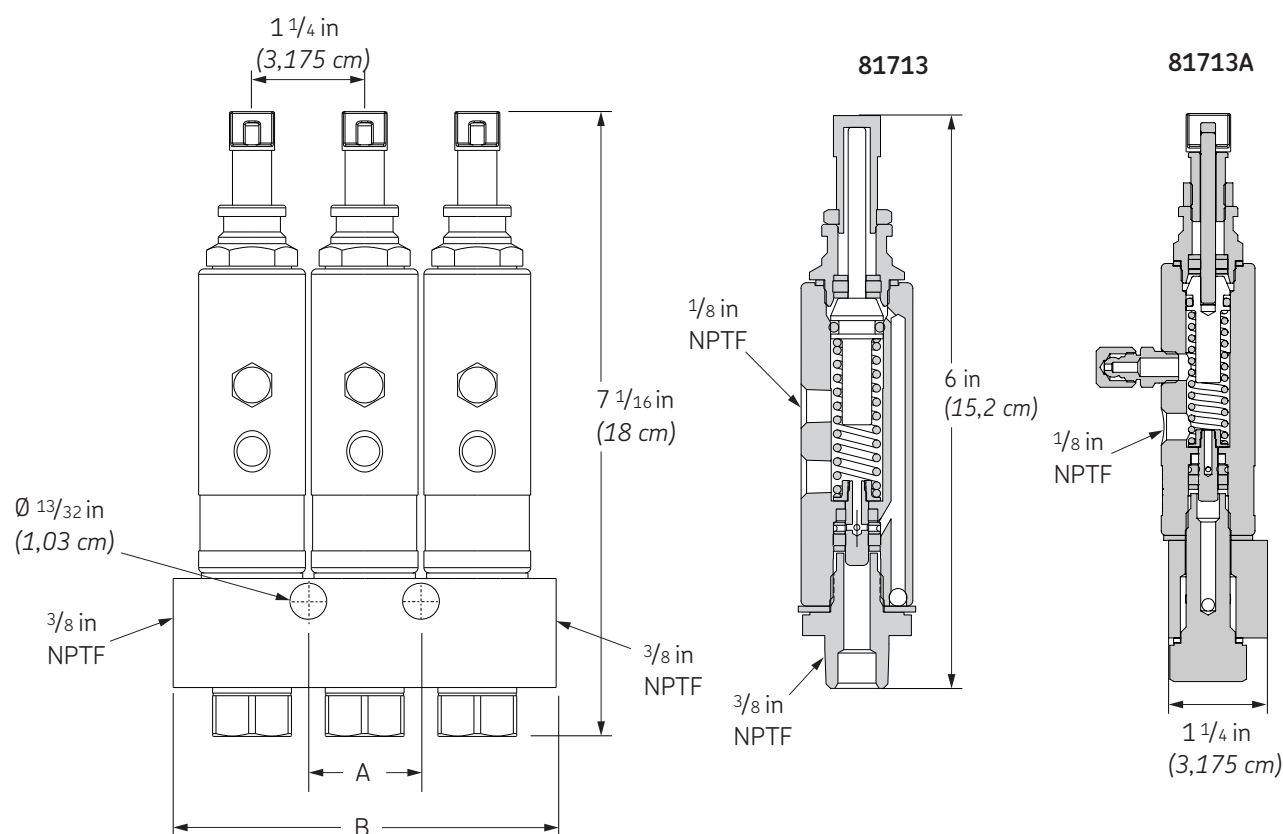
Indicates a dangerous situation that will lead to death or serious injury if precautionary measures are ignored.

Specifications

Minimum operating pressure	1 850 psi (127 bar)
Maximum operating pressure	3 500 psi (241 bar)
Recommended operating pressure	2 500 psi (172 bar)
Maximum vent (recharge) pressure	600 psi (41 bar)
Lubricant output is adjustable from	0.008 to 0.08 in ³ (0,131 to 1,31 cm ³)

Fig. 1

Dimensions



Injectors

Model	Description	Dimension A	Dimension B	Manifold
81770-1	Single injector	1)	2 1/2 in (6,35 cm)	12658
81770-2	Two injectors	1)	3 in (7,62 cm)	11962
81770-3	Three injectors	1 1/4 in (3,2 cm)	4 in (10,8 cm)	11963
81770-4	Four injectors	2 1/2 in (6,35 cm)	5 1/2 in (14 cm)	11964
81770-5	Five injectors	3 3/4 in (9,53 cm)	6 3/4 in (17 cm)	11965
81770-6	Six injectors	5 in (12,7 cm)	8 in (20,0 cm)	246965

1) Single mounting hole.

Mounting

Injectors can be mounted in any position and can be used in circuits with SL-32 and/or SL-33 injectors.

NOTE

Repair kits 250158 and 246000 available for use with models 81713 and 81713A.

NOTE

Single and manifold type for dispensing fluid lubricant and grease. Do not exceed NLGI 2 grade.

Adjustment procedure for SL-1 type injectors

- 1 Loosen locknut and turn approximately one extra turn toward loose position.
- 2 Hold locknut and turn adjusting screw clockwise, all the way down, until finger tight. At this position, output will be 0.008 in^3 ($0,131 \text{ cm}^3$).
- 3 Next, turn adjusting screw counterclockwise to achieve required output. Each turn out will add 0.009 in^3 ($0,147 \text{ cm}^3$). With approximately 8 turns of adjustment, maximum output will be 0.080 in^3 ($1,31 \text{ cm}^3$).
- 4 Tighten lock nut to torque of 90 to 110 lbf-in ($10 \text{ to } 12 \text{ Nm}$).

Item	Description
1	Measuring chamber
2	Injector piston
3	Discharge chamber
4	Slide valve
5	Lubricant supply inlet
6	Passage
7	Valve port

Operation

Stage 1

Injector piston (2) in normal or rest position. Discharge chamber (3) is filled with lubricant from previous cycle. Under pressure of incoming lubricant, slide valve (4) will open passage (6) leading to measuring chamber (1) above injector piston (2).

Stage 2

When slide valve (4) uncovers passage (6), lubricant enters measuring chamber (1) above injector piston (2) which forces lubricant from discharge chamber (3) through outlet port to bearing.

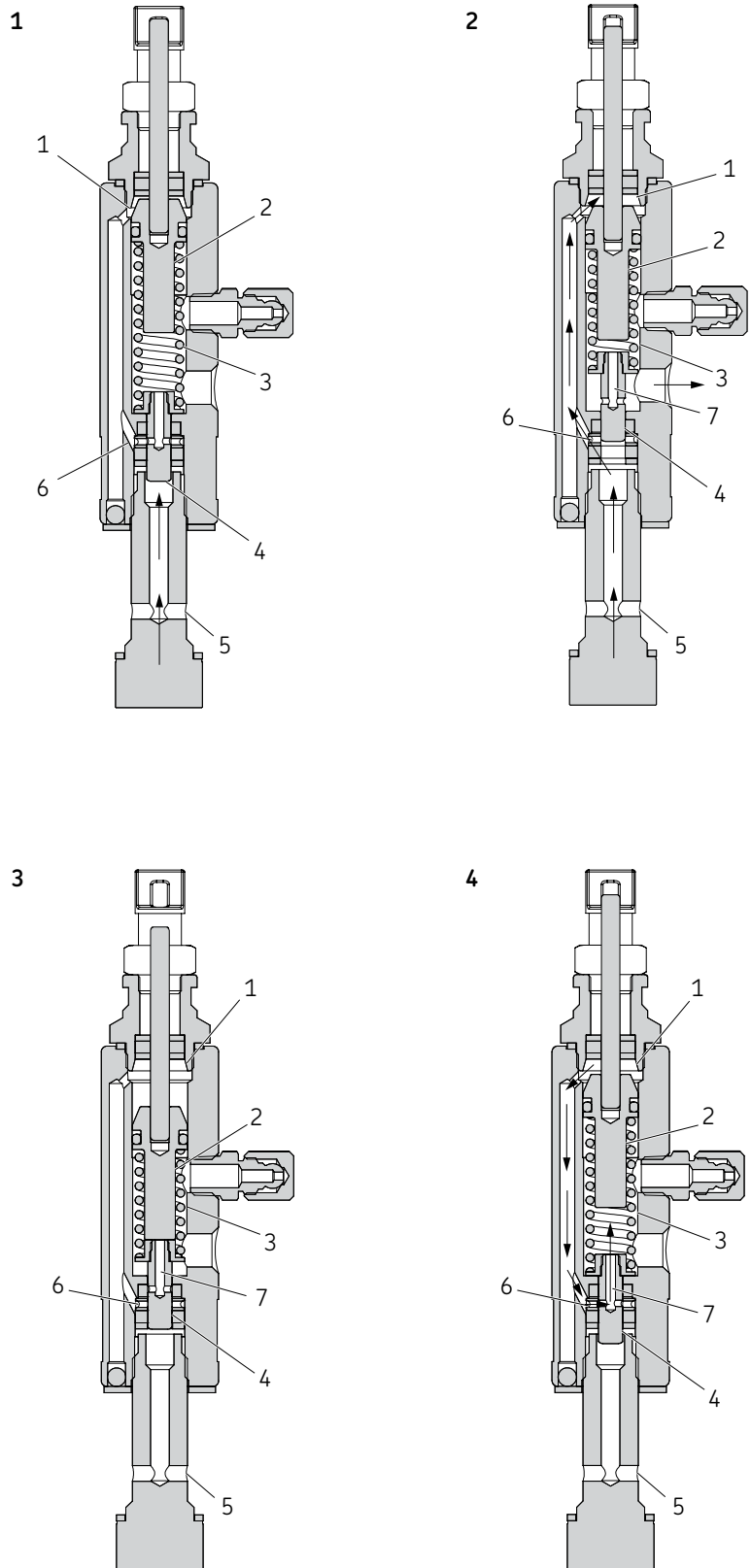
Stage 3

As injector piston (2) completes stroke, slide valve (4) is pushed past passage (6), cutting off further admission of lubricant to passage and measuring chamber (1). Injector piston (2) and slide valve (4) remain in this position until lubricant pressure in supply line is vented (relieved at pump).

Stage 4

After venting, injector spring expands, causing slide valve (4) to move, so passage (6) and discharge chamber (3) are connected by a valve port (7). Further expansion of spring causes piston (2) to move upward, forcing lubricant in measuring chamber (1) through passage (6) and valve port (7) to refill discharge chamber (3). Injector is now ready for next cycle.

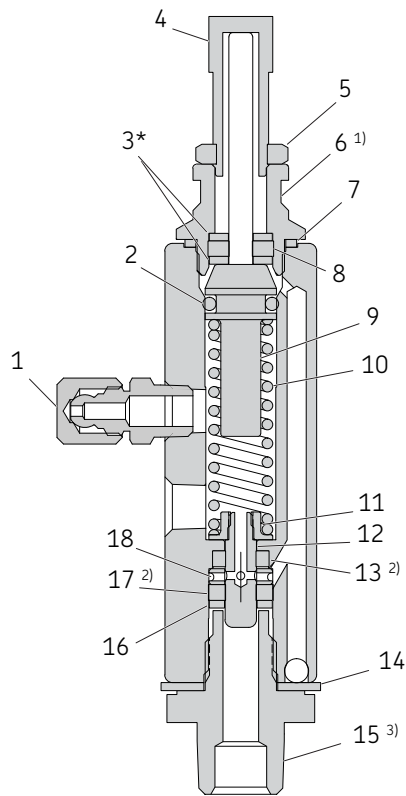
Injector operation



* Indicates change.

Fig. IPB 1

Model 81713 single unit injector



¹⁾ Torque to 25 to 30 lbf-ft (34 to 41 Nm).

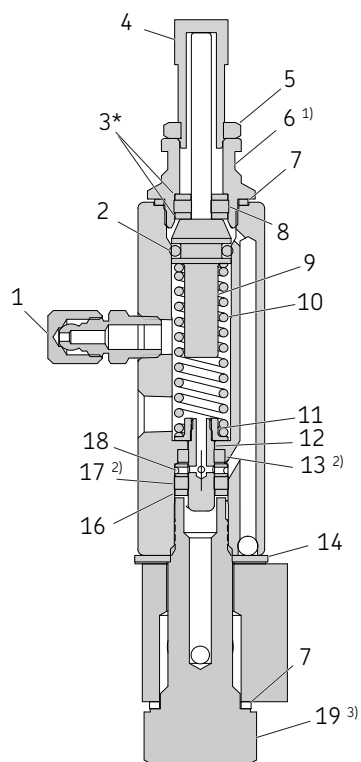
²⁾ Use installation tool 277062 when installing packing.

³⁾ Torque to 45 to 50 lbf-ft (61 to 68 Nm).

NOTE

Use anti-seize lubricant on threads to prevent galling.

Model 81713A replacement injector assembly



¹⁾ Torque to 25 to 30 lbf-ft (34 to 41 Nm).

²⁾ Use installation tool 277062 when installing packing.

³⁾ Torque to 45 to 50 lbf-ft (61 to 68 Nm).

Service parts

Item number	Description	Quantity	Part number
1	Fitting assembly	1	90471
2	FPM o-ring	1	1) 2)
3	Washer	2	1)
4	Adjusting screw	1	11623
5	Lock nut	1	11624
6	Piston stop plug	1	11450
7	Gasket	2	1)
8	FPM packing (black)	1	1) 2)
9	Piston assembly	1	1)
10	Plunger spring	1	1)
11	Spring seat	1	1)
12	Plunger	1	1)
13	FPM packing (green)	1	1) 2)
14	Gasket	1	31064
15	Adapter	1	13216
16	Washer	1	1)
17	FPM packing (red)	1	1)
18	Inlet disc	1	1)
19	Adapter bolt	1	11961

1) Included in 250158 repair kit.

2) Included in 246000 soft parts kit.

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Warranty

The instructions do not contain any information on the warranty. This can be found in the General Conditions of Sales, available at: www.lincolnindustrial.com/technicalservice or www.skf.com/lubrication.

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January 2020 · Form 404456 Version 3