

# Central Lubrication Pumps Helios Junior



B-HJ-000a12

Subject to modifications

This User Manual was compiled on behalf of the manufacturer

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## Introduction

### Explanation of Symbols Used




The following description standards are used in this manual:

#### Safety Instructions

Structure of safety instructions:

- Pictogram
- Signal word
- Danger text
  - Danger note
  - How to avoid danger

The following pictograms are used in this manual and are combined with the corresponding signal words:

 1013A94	 4273a00	 6001a02
- <b>ATTENTION</b> - <b>CAUTION</b> - <b>WARNING</b>	- <b>ATTENTION</b> - <b>CAUTION</b> - <b>WARNING</b>	- <b>NOTE</b> - <b>IMPORTANT</b>

The signal words give the seriousness of danger if the following text is not observed:

<b>ATTENTION</b>	refers to faults or damages on machines.
<b>CAUTION</b>	refers to bad damages and possible injuries.
<b>WARNING</b>	refers to possible dangerous injuries.
<b>NOTE</b>	indicates improved operation of the device.
<b>IMPORTANT</b>	indicates special operating features of the device.

Example:



#### **ATTENTION!**

*When making use of other than the tested spare parts, serious damage may affect your device.*

*Therefore, for the operation of your device always use original parts made by Lincoln GmbH.*

Furthermore, you will find the following text symbols in this manual:

- Listing of applicable statements
  - Subpoint of applicable statements
- 1. Determination of the number or sequence of contents
- ➡ Procedural instruction

### Carrier Responsibility

To ensure the safe operation of the unit, the user is responsible for the following:

1. The pump / system shall be operated only for the intended use (see next chapter „Safety Instructions“) and its design shall neither be modified nor transformed.
2. The pump / system shall be operated only if it is in a proper functioning condition and if it is operated in accordance with the maintenance requirements.
3. The operating personnel must be familiar with this User Manual and the safety instructions mentioned within and observe these carefully.

The correct installation and connection of tubes and hoses, if not specified by Lincoln GmbH, is the user's responsibility. Lincoln GmbH will gladly assist you with any questions pertaining to the installation.

### Environmental Protection

Waste (e.g. used oil, detergents, lubricants) must be disposed of in accordance with relevant environmental regulations.

### Service

The personnel responsible for the handling of the pump / system must be suitably qualified. If required, Lincoln GmbH offers you full service in the form of advice, on-site installation assistance, training, etc. We will be pleased to inform you about our possibilities to support you purposefully. In the event of inquiries pertaining to maintenance, repairs and spare parts, we require model specific data to enable us to clearly identify the components of your pump / system. Therefore, always indicate the part, model and series number of your pump / system.

- Before putting the pump into operation, read carefully these operating instructions
- Observe the safety instructions
- Keep these operating instructions on the site where the pump will be in operation.

## Safety Instructions



- All the components of the connected centralized lubrication system must be designed for maximum system pressure.
- Repairs may only be carried out by qualified, skilled personnel using only original spare parts.
- Refill the pump reservoir in time with clean lubricant.

## Pump types

(all types have a 3-Liter reservoir):

Pos.-No. 603-41200-1	HJ2 R-3XYN
Pos.-No. 603-41200-2	HJ2 L-3XYN
Pos.-No. 603-41200-3	HJ2 AR-3XYN
Pos.-No. 603-41200-4	HJ2 AL-3XYN

If necessary, the hand lever may be changed from one side to the other.

## Description of Operation

The central lubrication pump type HJ2 is equipped with 2 delivery pistons which are moved forward and backward via a hand lever. As a result, they alternately suck in the lubricant from the reservoir and dispense it to the outlets. In the case of the HJ2 pump the lubricant output of the two pistons is combined to one outlet.

The movement of the lever leads to a rotation of the stirring paddle in the reservoir.

The rotation of the stirring paddle causes the lubricant to be homogenized, vented and dispensed to the suction boreholes.

## Appropriate Use

The central lubrication pump type Helios Junior (HJ) is a handoperated high-pressure pump used for the supply of lubricating greases in centralized lubrication systems. The maximum values mentioned in the technical data must not be exceeded.

## Technical Data

Type	HJ2	HJ2A
Number of outlets	1	2
Lubricant output per lever movement:	2 cm <sup>3</sup>	2x1 cm <sup>3</sup>
Operating pressure:	300 bar	300 bar
Hand force at max. pressure	300 N	300 N
Suitable lubricants:	grease up to NLGI-grade 3 acc. to DIN 51818 (as a function of the ambient temp.)	
Threaded connection:	G1/4"	G1/4"
Reservoir capacity:	3 liter	3 liter
Weight empty:	8,7 kg	8,9 kg



6001a02

### NOTE

*The pumps may now be used with oil (mineral oil) too.*

*The minimum viscosity of the oil has to 150 cSt at operating temperature.*

## Accessories

Order the check valves required for the pump outlet separately and accordance with the number and diameter of the tube line(s):

Check valve for tube Ø 6 mm:	GERV 6-SG 1/4AVC Part. no. 223-13052-1
Check valve for tube Ø 8 mm:	GERV 8-L G 1/4 AVC Part. no. 223-13052-2
Check valve for tube Ø 10 mm:	GERV 10-LG1/4AVC Part. no. 223-13052-3

## Examples of Application

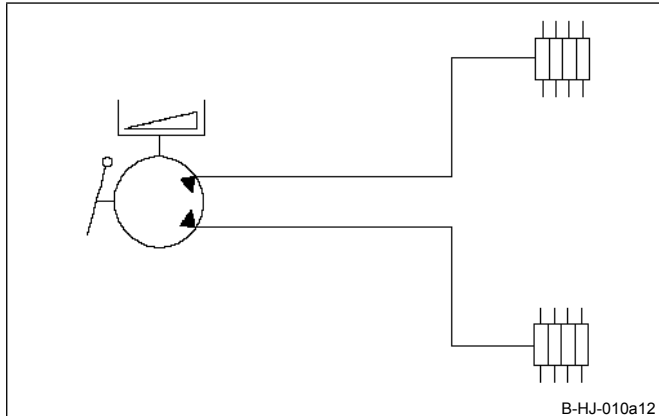


Fig. 1 HJ2A with 2 outlets, used as a supply pump in a progressive system

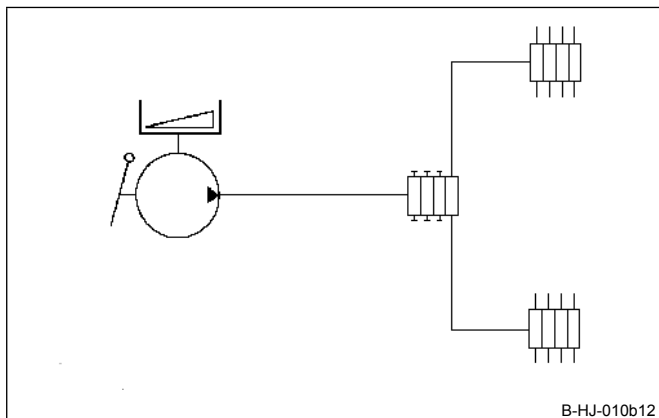


Fig. 2 HJ2 with 1 outlet, used as a supply pump in a progressive system with one main manifold device

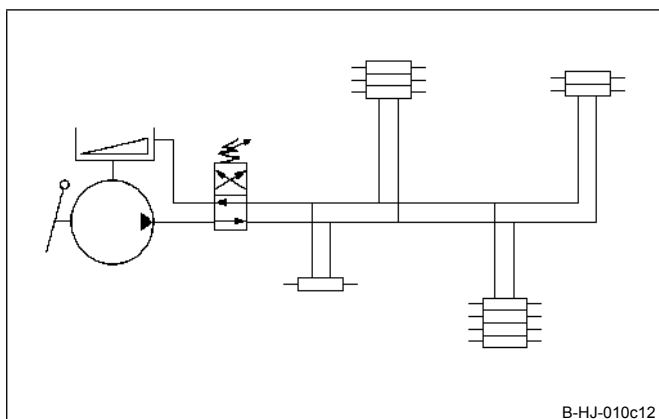


Fig. 3 HJ2 with 1 outlet, used as a supply pump in a small two-line system

## Installation

### Installation site requirements

- even, solid and vibration-free surface
- protected from dust and dirt
- protected against atmospheric influences
- Sufficient space for operating the hand lever and for refilling the lubricant reservoir

Position of installation: reservoir vertical

## Putting into Operation

Before putting the pump into operation, fill the reservoir with lubricant

### Attention

- When filling the reservoir, pay attention that no foreign particles or dirt enter the reservoir.
- Always refill the reservoir in time.
- Avoid contamination in the pump area.



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- Do not touch the internal parts of the grease reservoir while the pump is in operation.
- Risk of injury due to the stirring paddle.
- All the components connected to the system installed downstream of the pump and on which the hydraulic pump pressure has an influence (e.g. change-over valve, metering devices, tube lines, tube fittings, hoses) must be designed for maximum system pressure.

## Maintenance and Repair



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**Before undertaking any repair on the pump, observe the following:**

- Loosen the pressure connection fittings in order to decrease the pressure in the system. Risk of injury due to lubricant splashing out under high pressure.

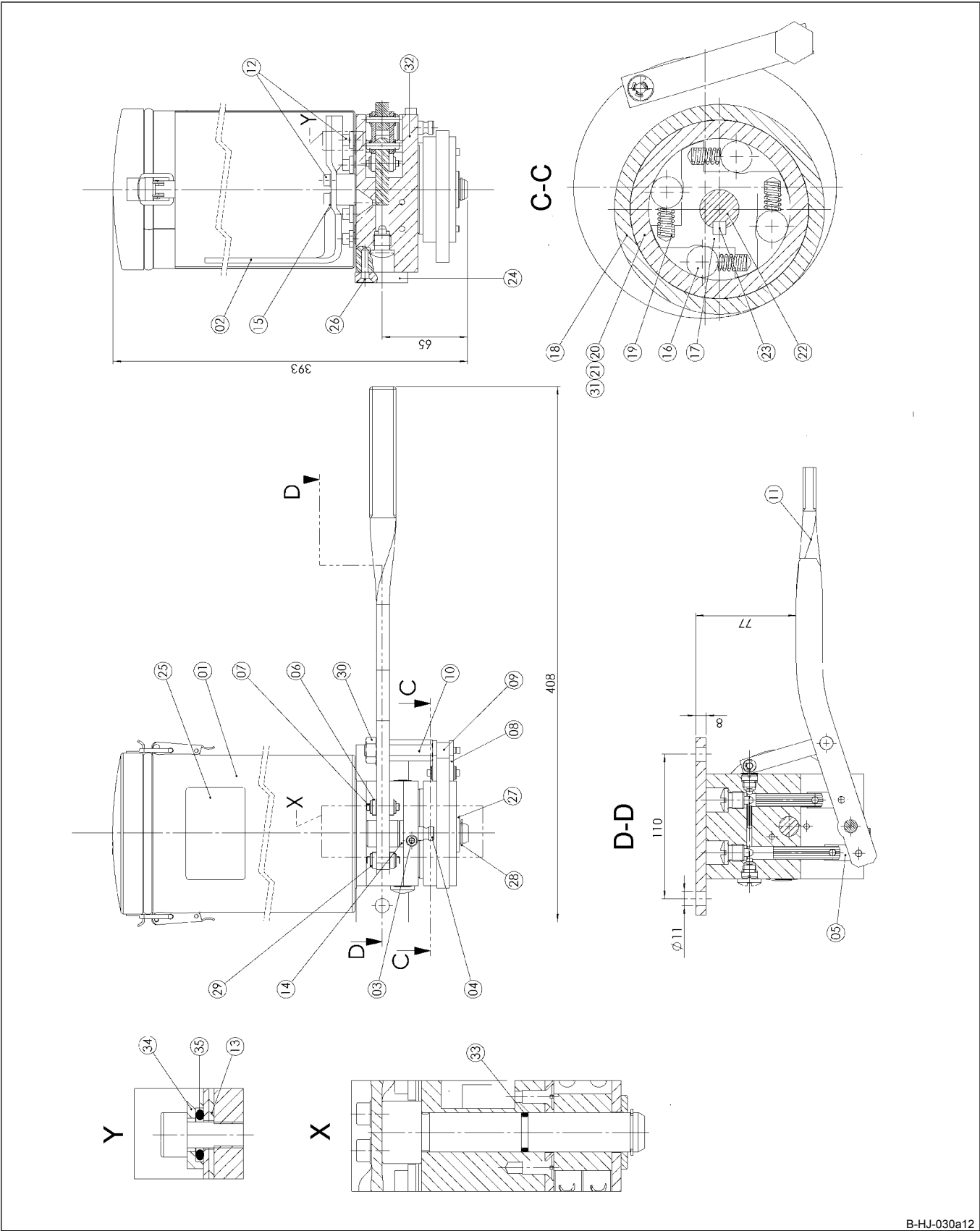
- Repairs may only be carried out by qualified, skilled personnel using original spare parts.
- Provided that the pump dispenses only clean lubricant, it does not need any particular maintenance. Clean and lubricate the drive parts (swivels) and the ratchet gear, if necessary.

## Troubleshooting

▪ Fault: Pump does not supply lubricant	
▪ Cause:	▪ Remedy:
▪ Reservoir empty	▪ Refill the reservoir with lubricant and cycle the pump until grease is dispensed from the pressure line connection without air bubbles.
▪ Suction borehole clogged	▪ Check the suction boreholes for foreign particles and remove them, if any.
▪ Fault: No pressurization in the system	
▪ Cause:	▪ Remedy:
▪ Check valve defective or clogged	▪ Replace the check valve
▪ Pump piston worn	▪ Replace the pump housing assy
▪ Fault: System blocked	
▪ Cause:	▪ Remedy:
▪ Bearing, lines or progressive metering devices clogged.	▪ Find out the cause of the blockage and eliminate it: see: progressive metering device malfunctioning
▪ Change-over valve malfunctioning	▪ see: change-over valve malfunctioning or description of system

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Spare Parts Drawing



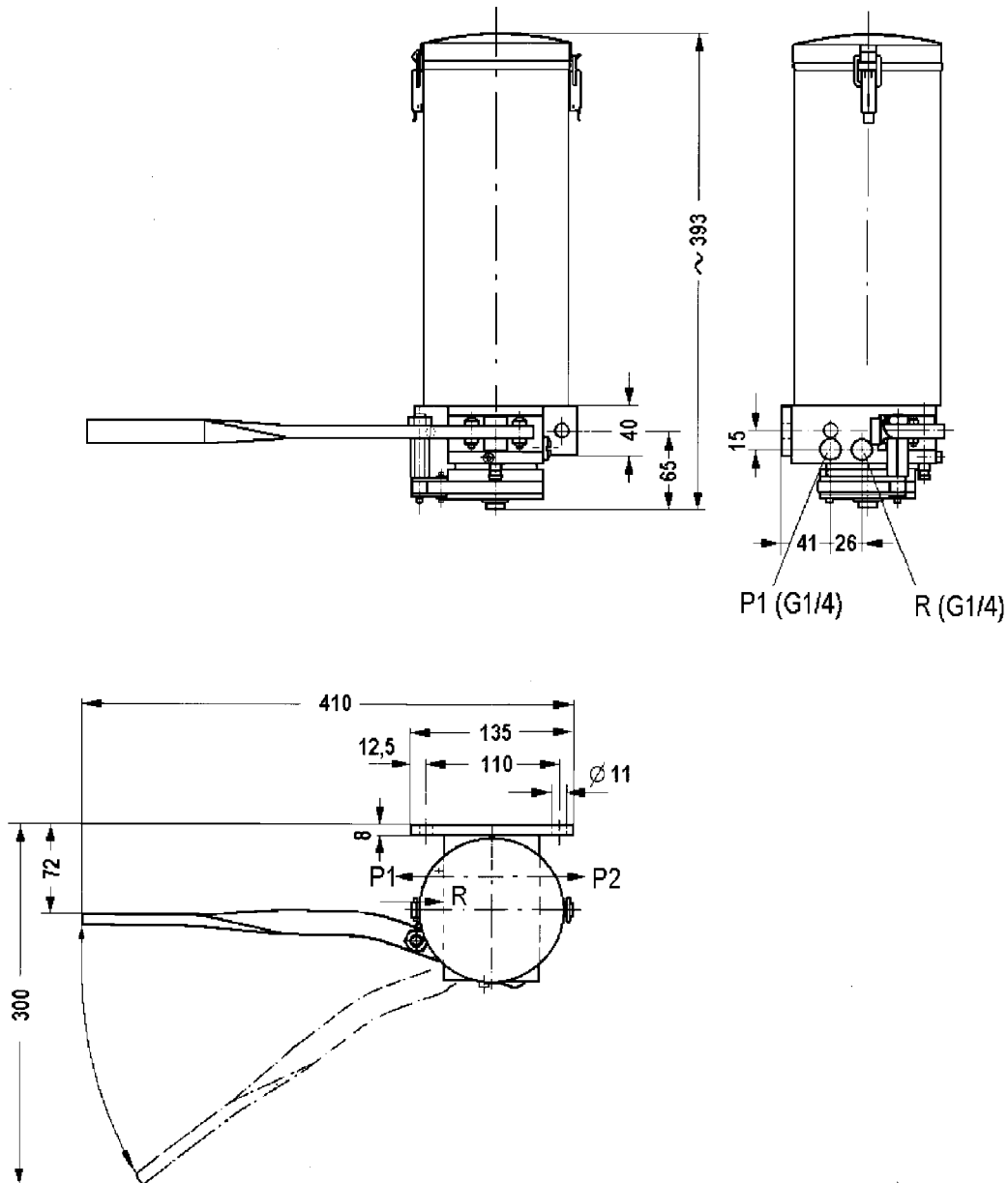
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### Spare Part List

Pos.	Designation	Qty.	Part. no.
1	RESERVOIR ASSY 3L	1	503-30034-1
2	STIRRING PADDLE 3L	1	403-20180-1
3	STOP SCREW	1	403-20173-1
4	PIVOT 10x59	1	403-20172-1
5	SIDE PLATE SHORT 32x12x3	4	403-20171-1
6	MACHINED WASHER 5.3 CS GALV. YELLOW	12	209-12146-1
7	PIN Ø5	5	302-17366-2
8	SIDE PLATE LONG 73x12x3	2	403-20175-1
9	SPACER SLEEVE 12x9,8	1	403-20176-1
10	SECURING STUD	1	403-20177-1
11	OPERATING LEVER	1	403-20169-1
12	HEX.SOC.HD.CAP SCREW M05X12, GAL YELLOW	8	201-12016-4
13	GASKET Ø67 X Ø83 X 1	1	306-17846-1
14	PUNCHED WASHER A11, CS GALV.YELLOW	1	209-12150-3
15	MULTI TOOTH LOCK WASHER B5.3 IS;5371 GAL.YELLOW	2	210-12161-6
16	ROLLER	8	405-24314-1
17	RATCHET GEAR (MACHINING)	1	403-20086-1
18	DRIVE GEAR	1	403-20174-1
19	COMPRESSION SPRING 6,4x1x11	8	300-17203-1
20	BRAKE DRUM	1	403-20190-1
21	SLOTTED COUNTERSUNK SCREW M5 X 12	2	202-12402-2
22	SHAFT D15x100 F.HJ-YN	1	403-72863-1
23	KEY 5 X 5 X 20	1	214-12174-2
24	FLANGE	1	403-20168-1
25	LABEL	1	810-55013-2
26	M6X20 SLOTTD. CSK SCREW TYPE A GALV. YELLOW.	3	202-12049-6
27	WASHER	1	209-13077-8
28	CIRCLIP (EXTERNAL) A15 X 1 IS:3075	1	211-12164-4
29	CIRCLIP -C TYPE FOR DIA.4 MM	11	211-12504-1
30	HEX NUT M10 GAL.YELLOW	1	207-12136-1
31	DOWEL PIN 9SMNPB28K D 5X 8 TOLERANCE H11	2	215-12201-1
32	PUMP BODY ASSY F. HJ2 YN	1	503-33644-1
33	O-RING 72NBR 11,00X2,00	1	219-12223-4
34	SEALING WASHER F. HJ2	6	403-72879-1
35	O-RING 83FKM 6,00X2,00	6	219-13063-4

## Dimensioned Drawing HJ2L



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- P1: Pressure connection for all types  
P2: Pressure connection for HJ2A  
R: Return line connection for HJ2

## This image shows a full page of blank graph paper. The grid consists of small, equal-sized squares formed by thin black lines. There are no margins, text, or other markings on the page.

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