

FIG. 1

100

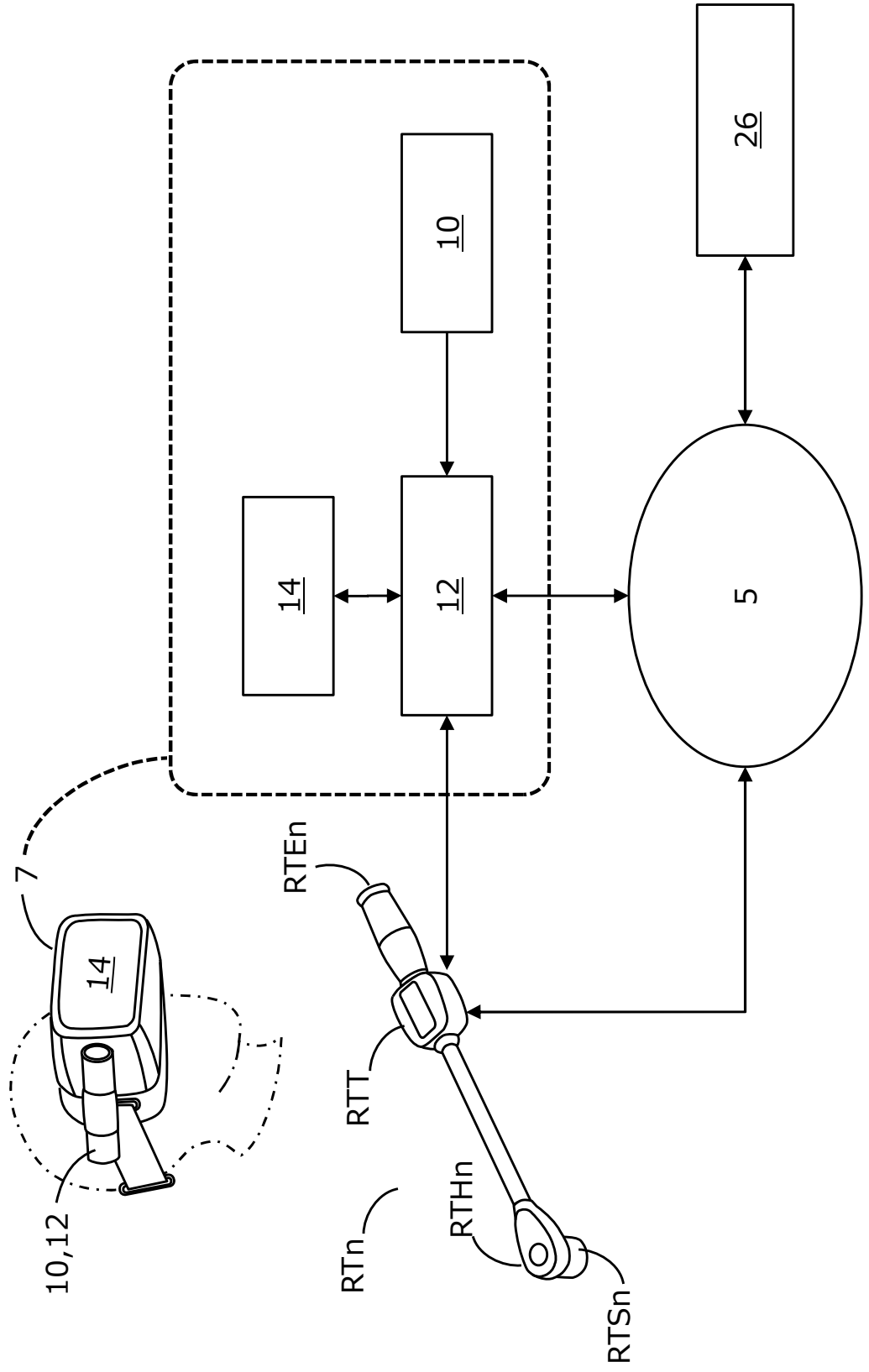


FIG. 2

200

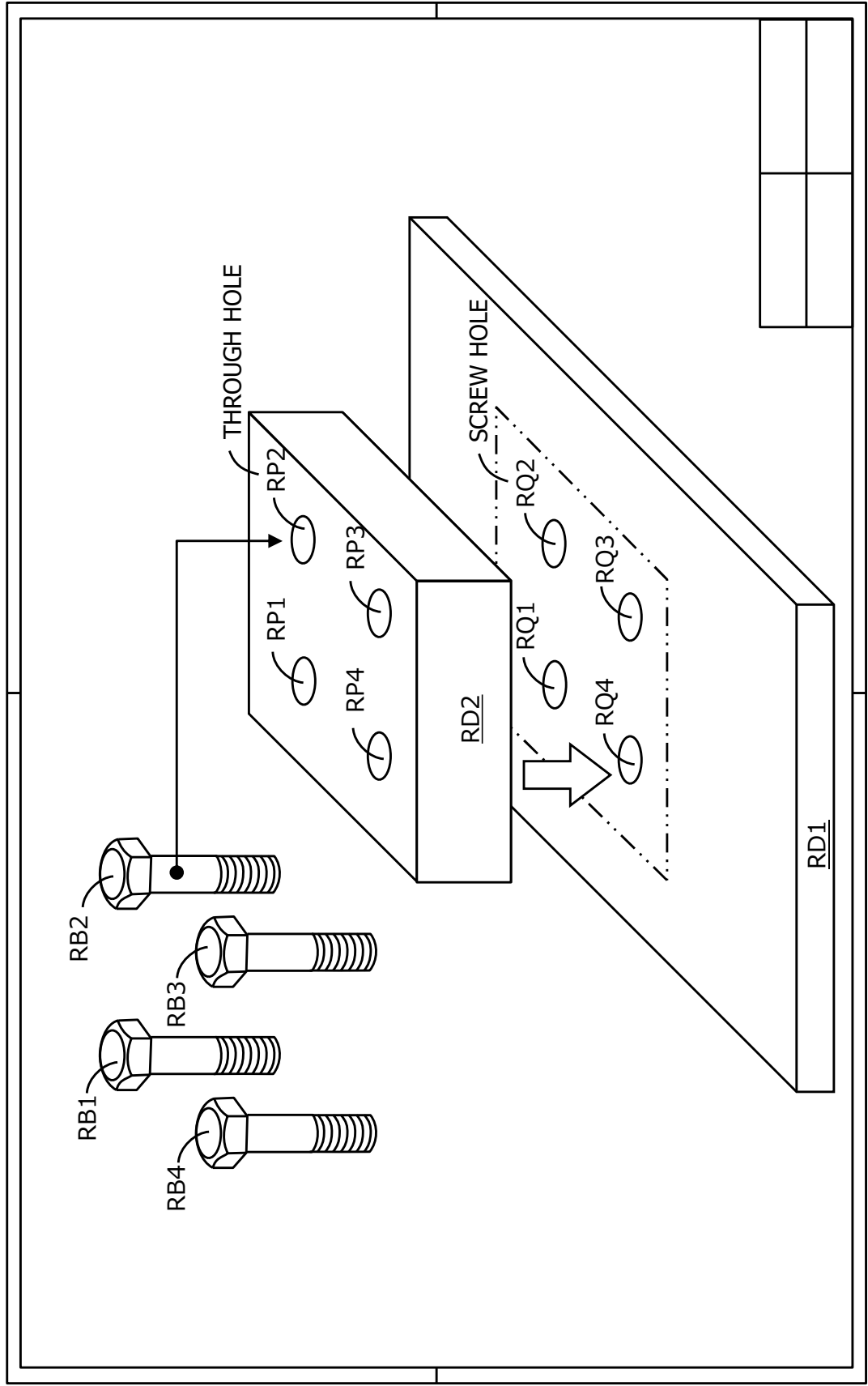


FIG. 3

WORK INSTRUCTION DOCUMENT 360

No.	ITEM	CONTENT
1	DRAWING NUMBER	○○-△□○○△
2	DRAWING NAME	ASSEMBLY DRAWING FOR ATTACHING COMPONENT TO SUBSTRATE
3	COMPONENT NAME, MATERIAL	BASE (RD1), ALUMINUM ALLOY
4	COMPONENT NAME, MATERIAL	COMPONENT (RD2), ALUMINUM ALLOY
5	BOLT SIZE	M12
6	BOLT UNDERHEAD LENGTH	50mm
7	BOLT MATERIAL	STAINLESS STEEL
8	PRESCRIBED FASTENING TORQUE	20 (LOWER-LIMIT VALUE)、30 (TARGET VALUE)、 40 (UPPER-LIMIT VALUE) [N・m]
9	NUMBER OF BOLTS	4
10	TOOL (RTn)	D1n = aa (mm)
11	SOCKET (RTSn)	RB1,RB2,RB4: D21= 50 (mm), RB3: D22 = 80 (mm)

FIG. 4

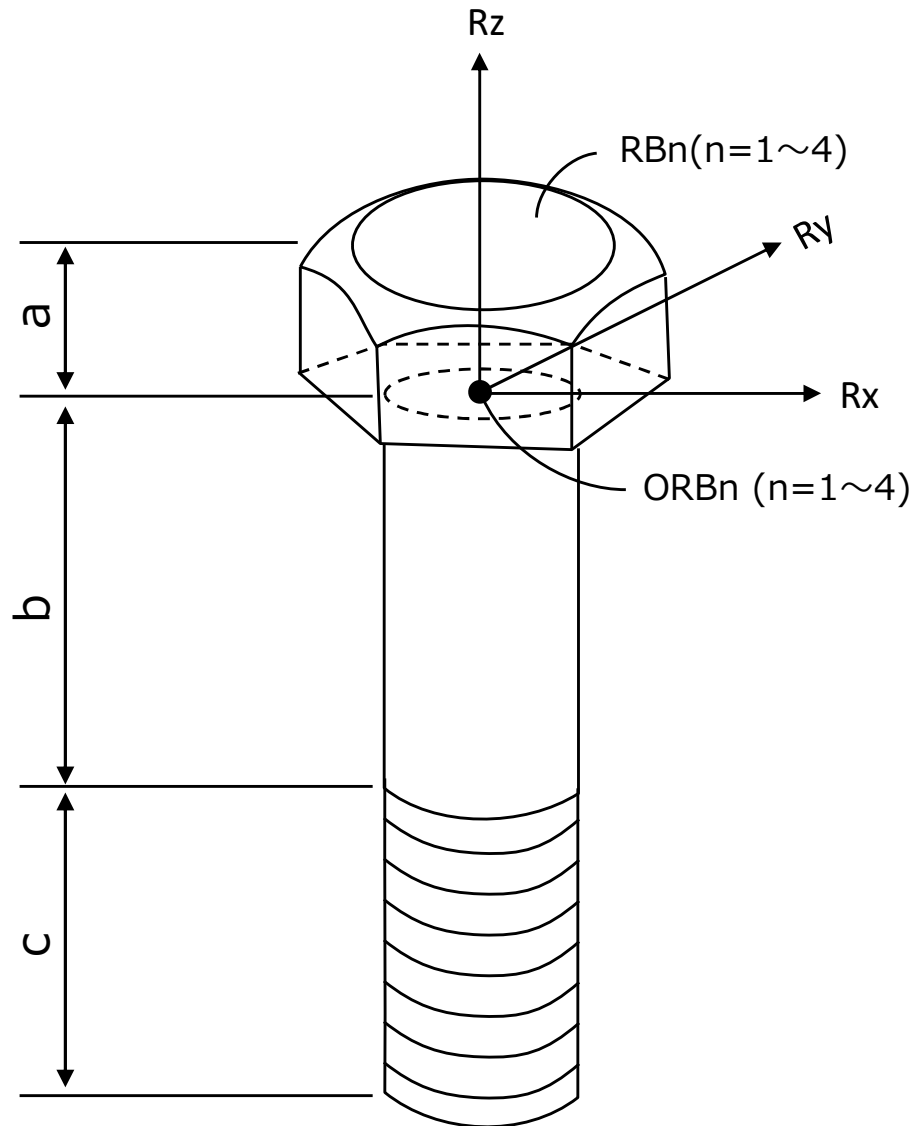


FIG. 5

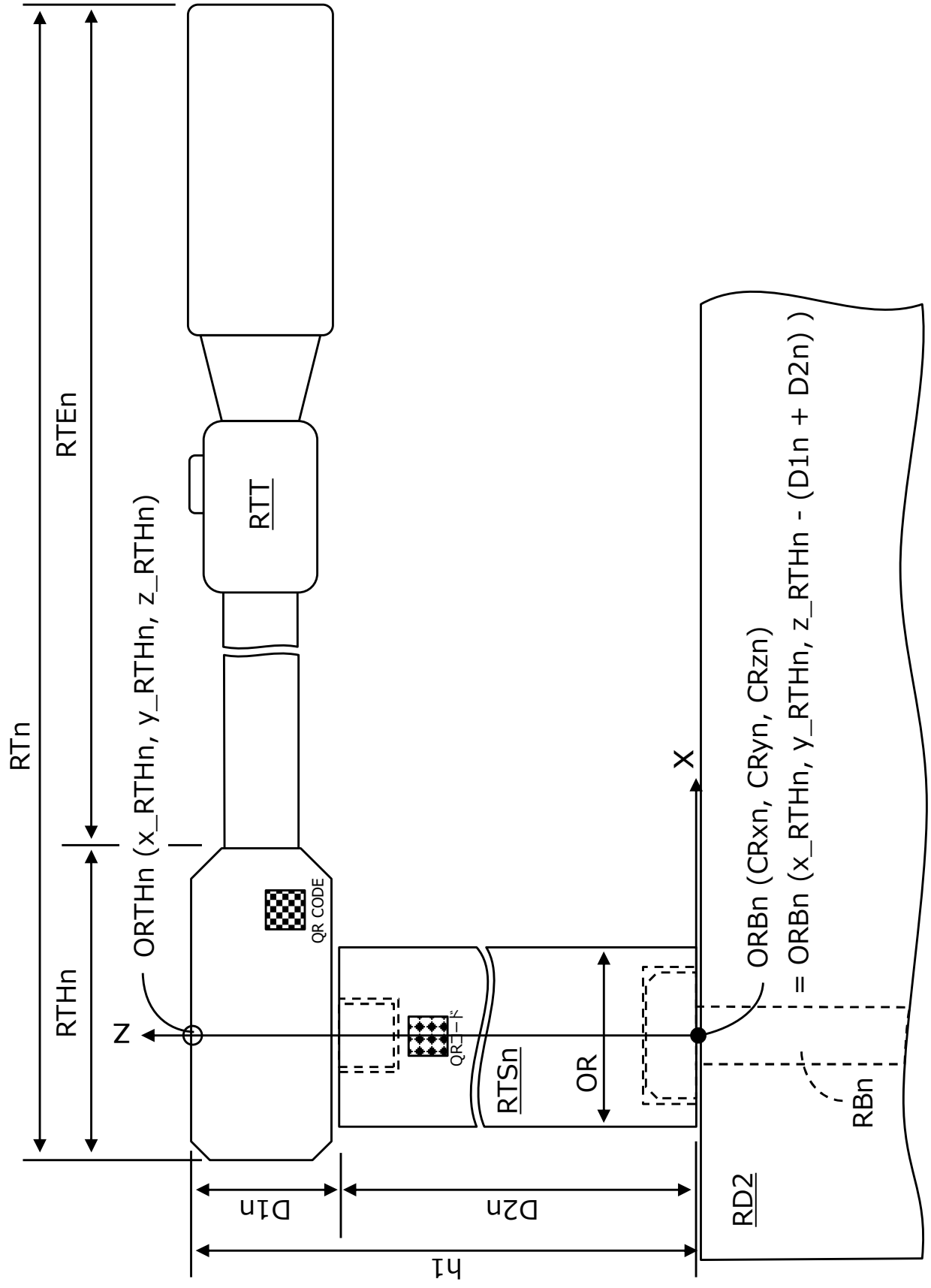


FIG. 6

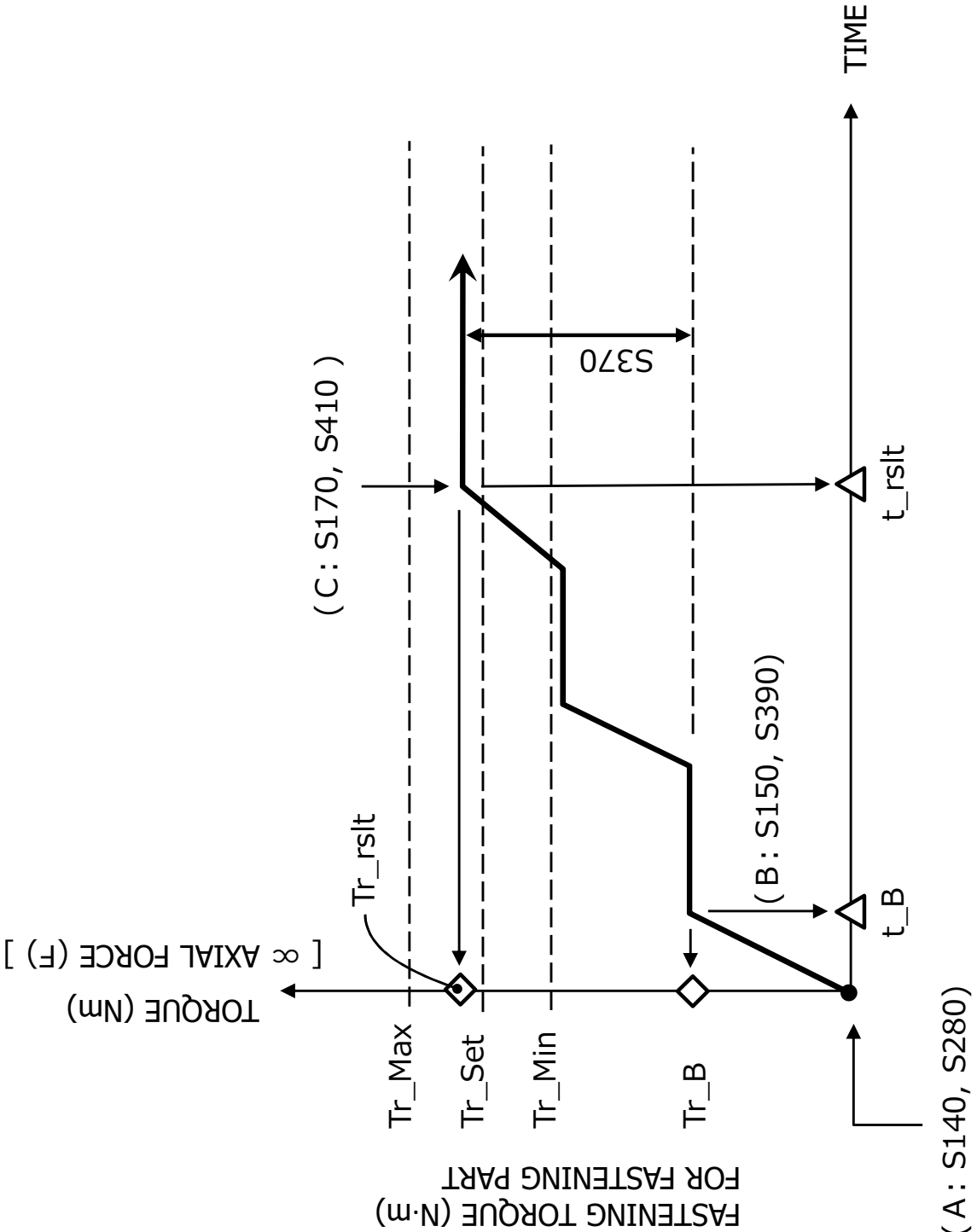


FIG. 7

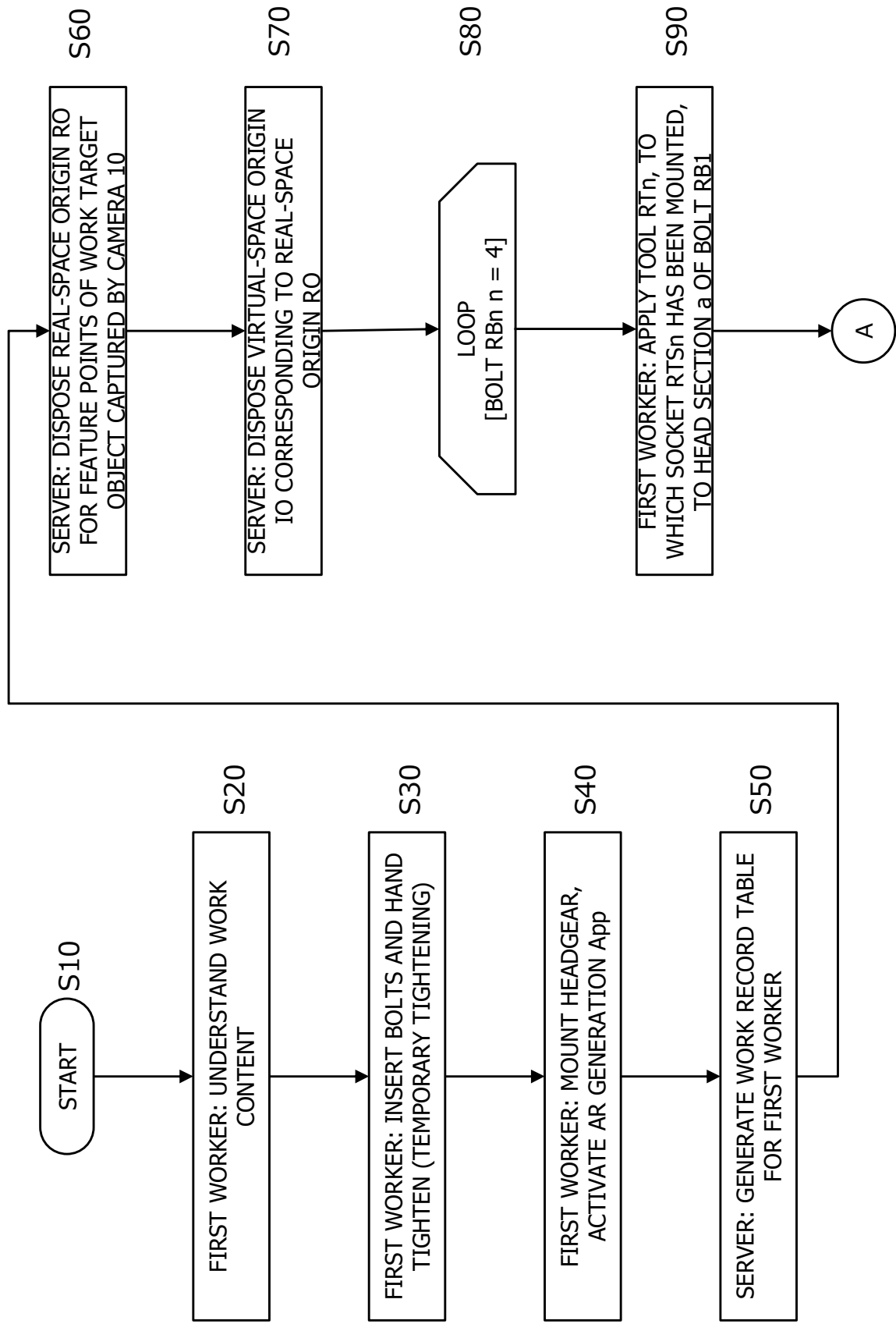


FIG. 8

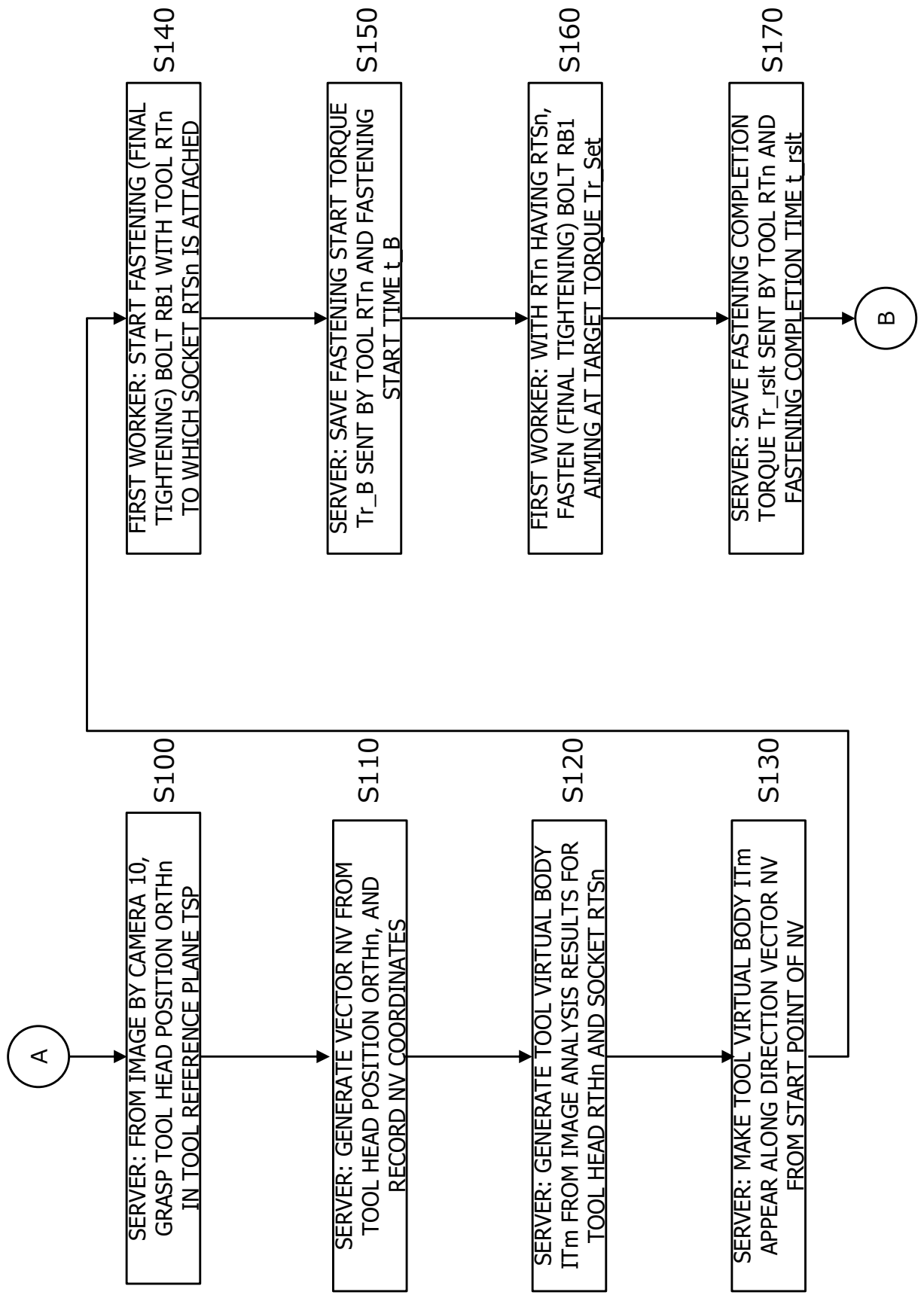


FIG. 9

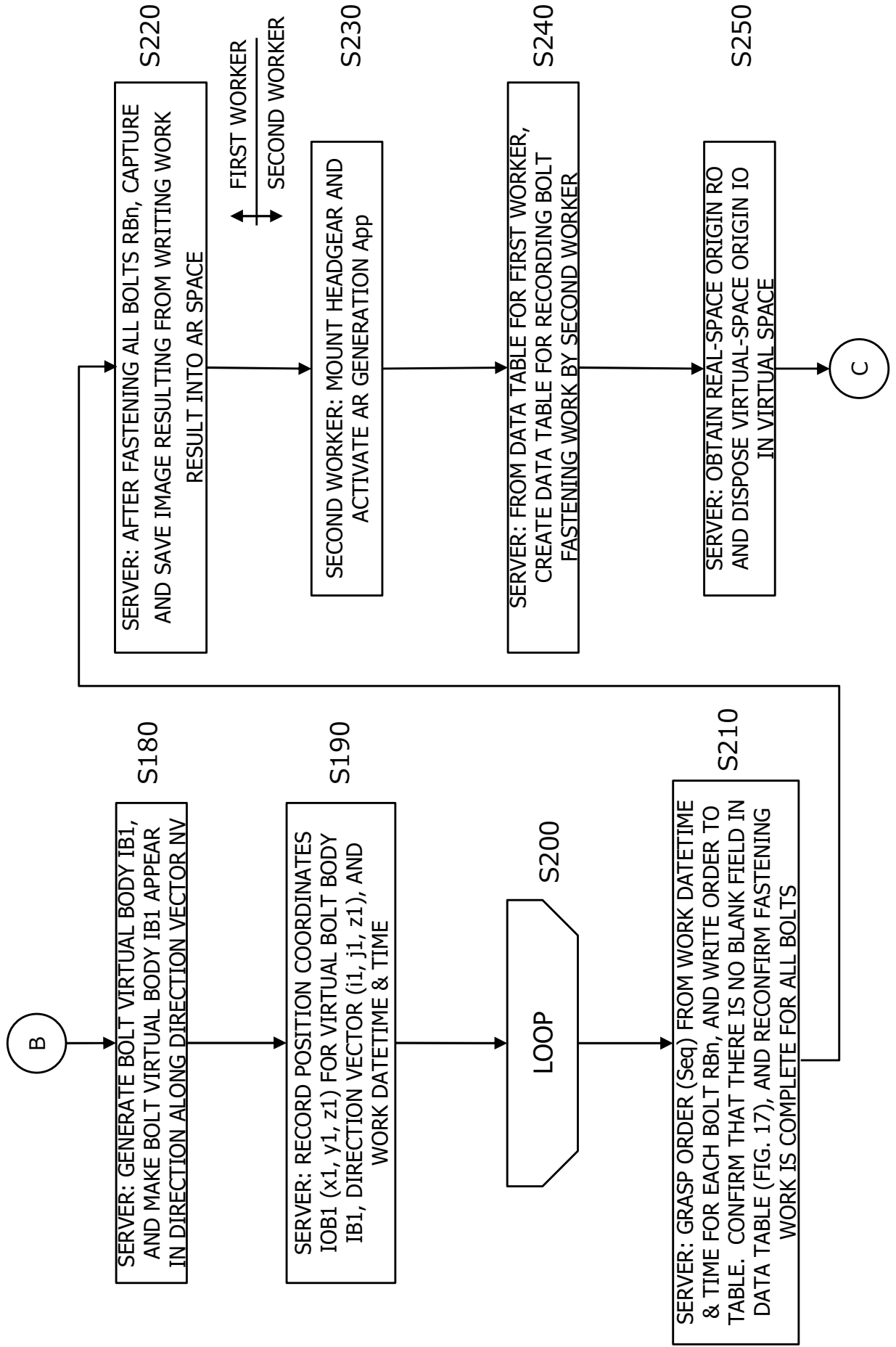


FIG. 10

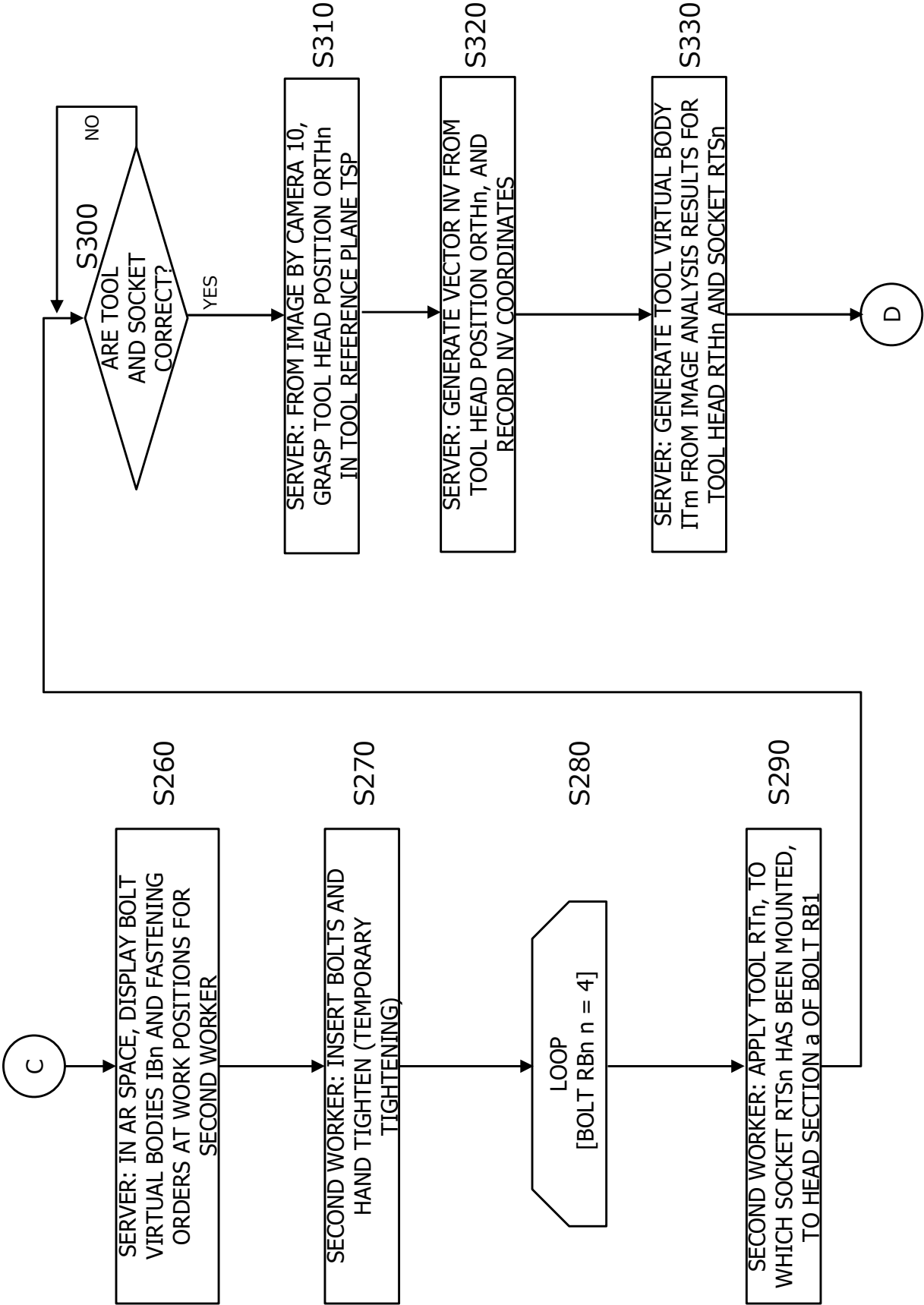


FIG. 11

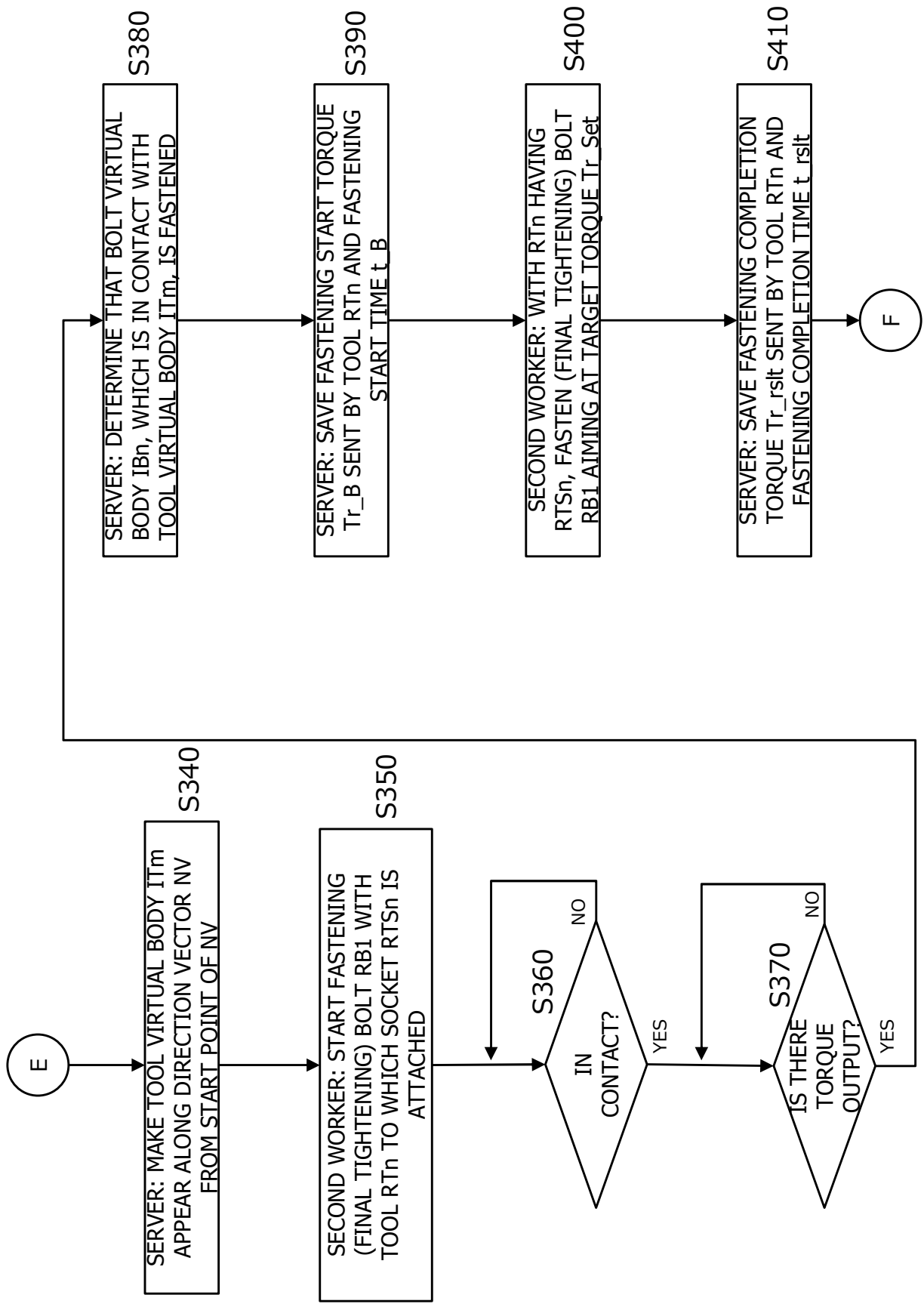


FIG. 12

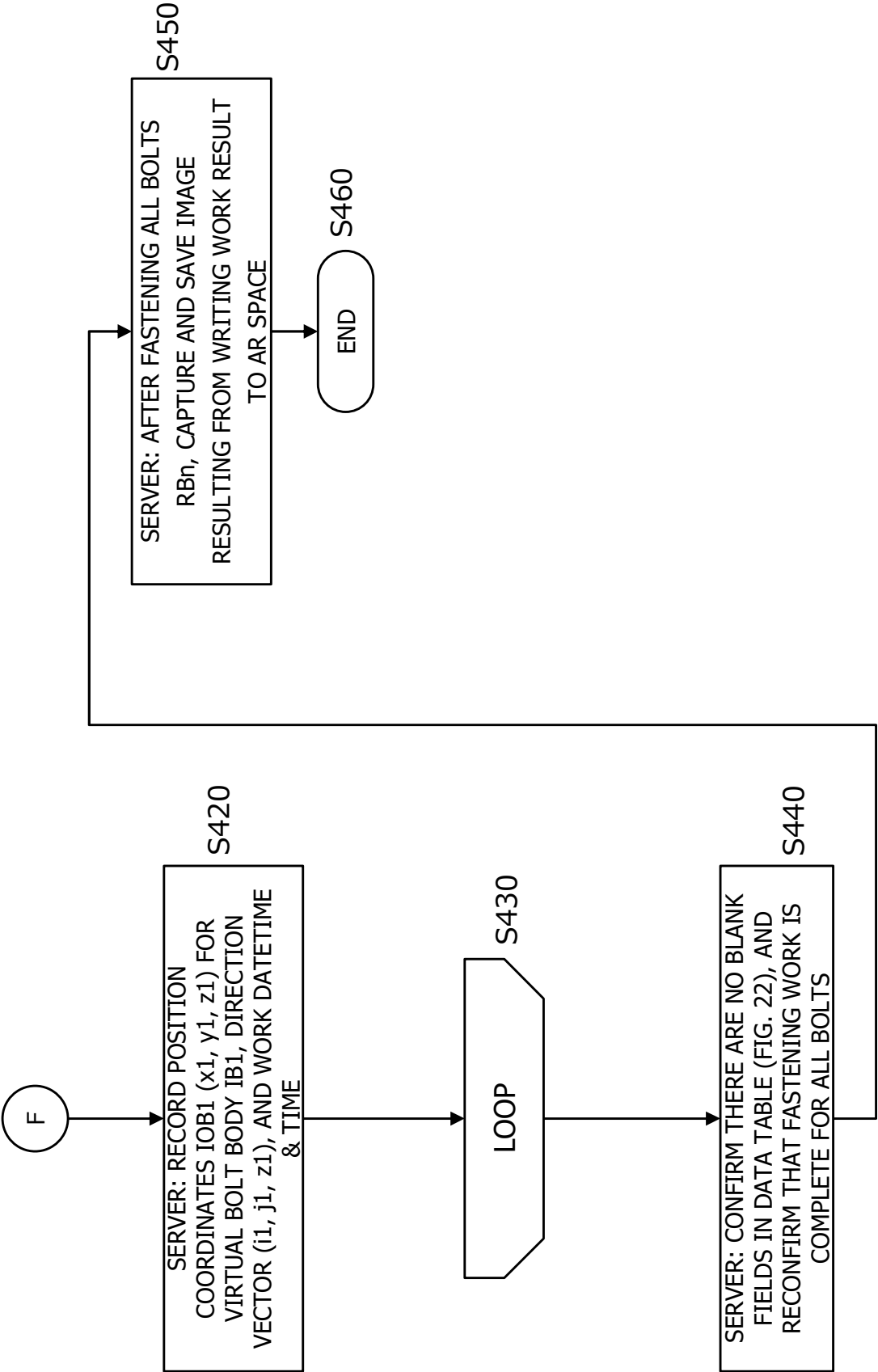


FIG. 13

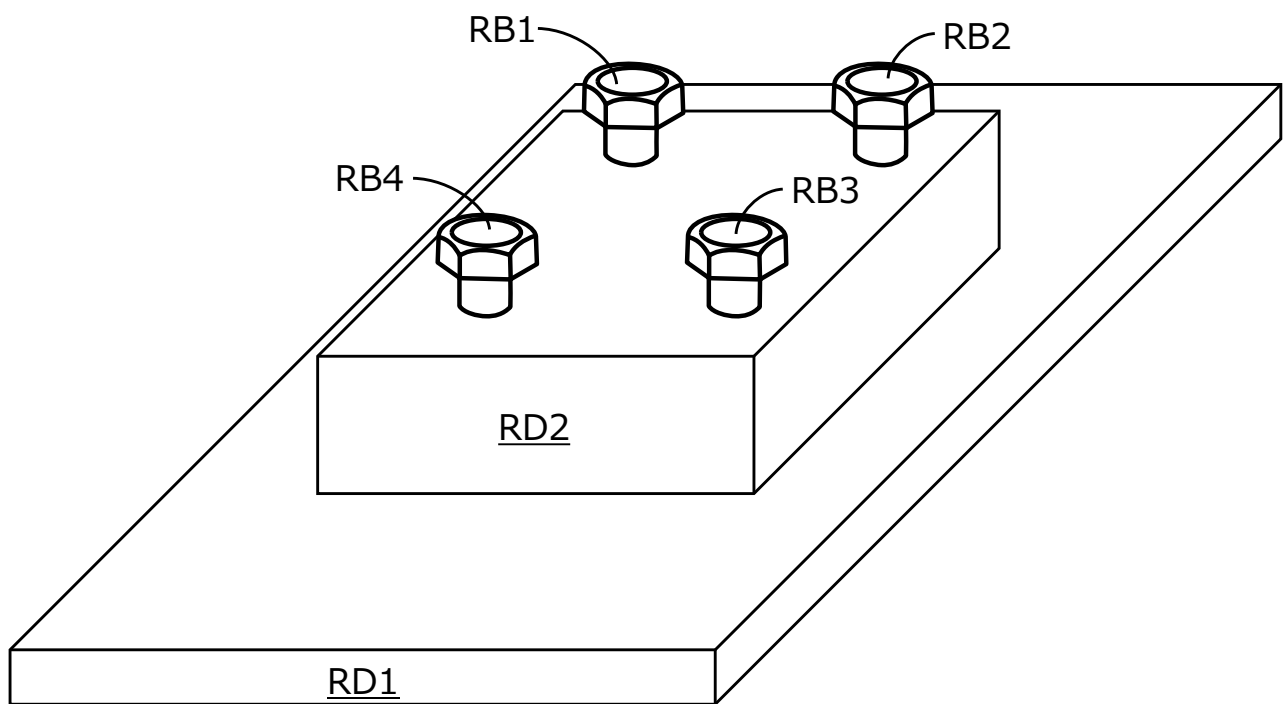


FIG. 14

DATA TABLE FOR RECORDING BOLT FASTENING WORK BY FIRST WORKER													
No.	X	Y	Z	i	j	k	Tr_ Min [Nm]	Tr_ Set [Nm]	Tr_ Max [Nm]	Tr_ rslt [Nm]	ORDER (Seq)	WORK DATE	WORK TIME
RB1							20	30	40				
RB2							20	30	40				
RB3							20	30	40				
RB4							20	30	40				

BOLT POSITION
COORDINATES
(DIRECTION FOR DIRECTION VECTOR NV)
SEEN FROM TOOL REFERENCE PLANE

BOLT POSITION DIRECTION

FASTENING TORQUE LOWER LIMIT,
TARGET, UPPER LIMIT, RESULT, AND
FASTENING ORDER

DATE AND TIME
AT WHICH FASTENING WORK
HAS BEEN PERFORMED

FIG. 15

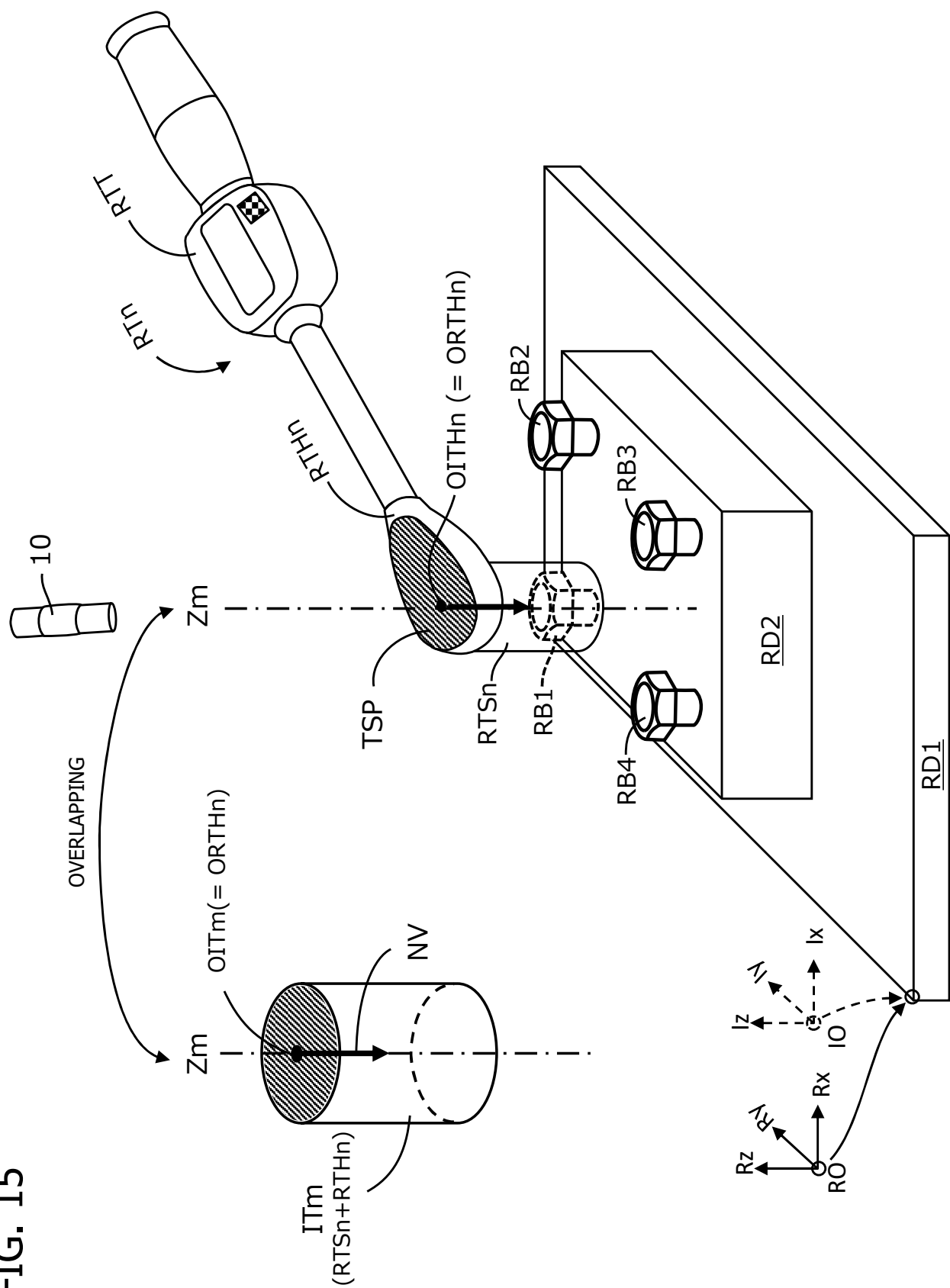


FIG. 16

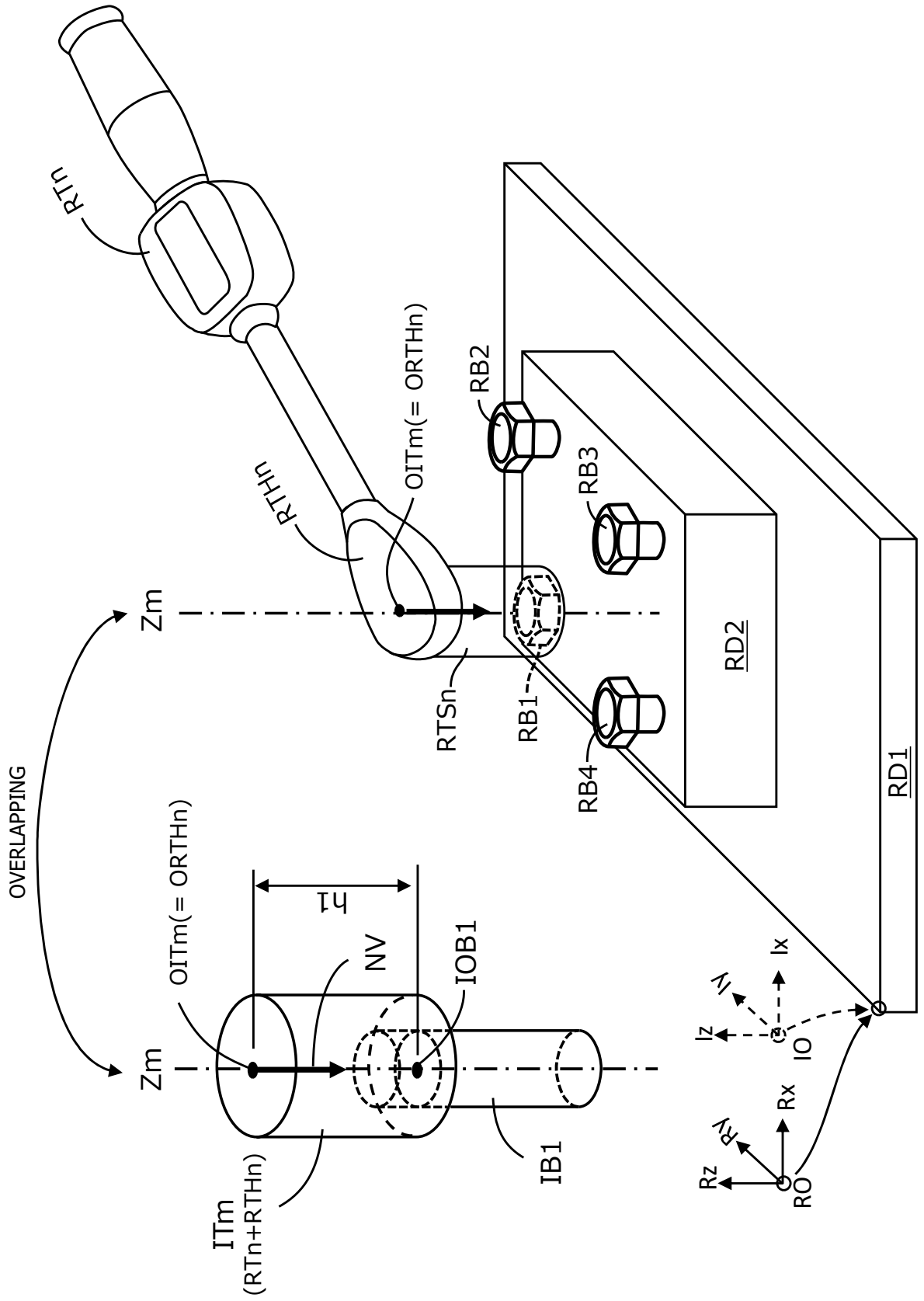


FIG. 17

DATA TABLE IN WHICH IS RECORDED BOLT FASTENING WORK BY FIRST WORKER													
No.	X	Y	Z	i	j	k	Tr _{Min} [Nm]	Tr _{Set} [Nm]	Tr _{Max} [Nm]	Tr _{rslt} [Nm]	ORDER (Seq)	WORK DATE	WORK TIME
RB1	x1	y1	z1	i1	j1	k1	20	30	40	32.5	1	2020/02/03	13:25:47
RB3	x3	y3	z3	i3	j3	k3	20	30	40	28.9	2	2020/02/03	13:26:22
RB2	x2	y2	z2	i2	j2	k2	20	30	40	31.3	3	2020/02/03	13:28:01
RB4	x4	y4	z4	i4	j4	k4	20	30	40	33.2	4	2020/02/03	13:28:45

← BOLT POSITION COORDINATES

← COORDINATES FOR DIRECTION VECTOR NV HAVING AS START POINT REPRESENTATIVE POINT OITm FOR TOOL VIRTUAL BODY ITm

← FASTENING TORQUE LOWER LIMIT, TARGET, UPPER LIMIT, RESULT, AND FASTENING ORDER

← DATE AND TIME AT WHICH FASTENING WORK HAS BEEN PERFORMED

FIG. 18

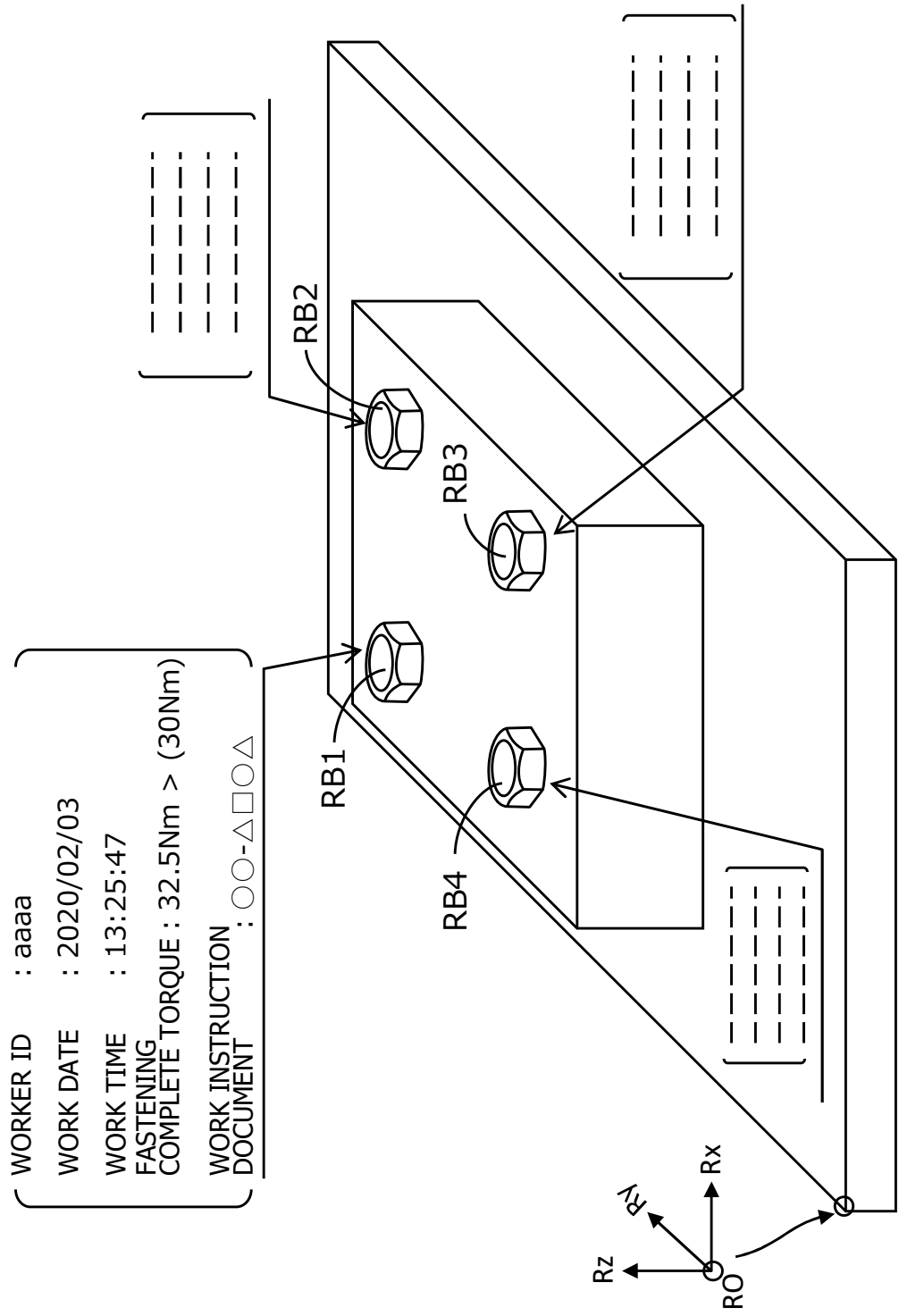


FIG. 19

DATA TABLE FOR RECORDING BOLT FASTENING WORK BY SECOND WORKER													
No.	X	Y	Z	i	j	k	Tr _{Min} [Nm]	Tr _{Set} [Nm]	Tr _{Max} [Nm]	Tr _{rslt} [Nm]	ORDER (Seq)	WORK DATE	WORK TIME
RB1	x1	y1	z1	i1	j1	k1	20	30	40		1		
RB3	x3	y3	z3	i3	j3	k3	20	30	40		2		
RB2	x2	y2	z2	i2	j2	k2	20	30	40		3		
RB4	x4	y4	z4	i4	j4	k4	20	30	40		4		

BOLT POSITION
COORDINATES

FOR DIRECTION VECTOR NV
HAVING AS START POINT
REPRESENTATIVE POINT OITm
FOR TOOL VIRTUAL BODY ITm

COORDINATES

FASTENING TORQUE LOWER LIMIT,
TARGET, UPPER LIMIT, RESULT, AND
FASTENING ORDER

DATE AND TIME

AT WHICH FASTENING WORK
HAS BEEN PERFORMED

FIG. 20

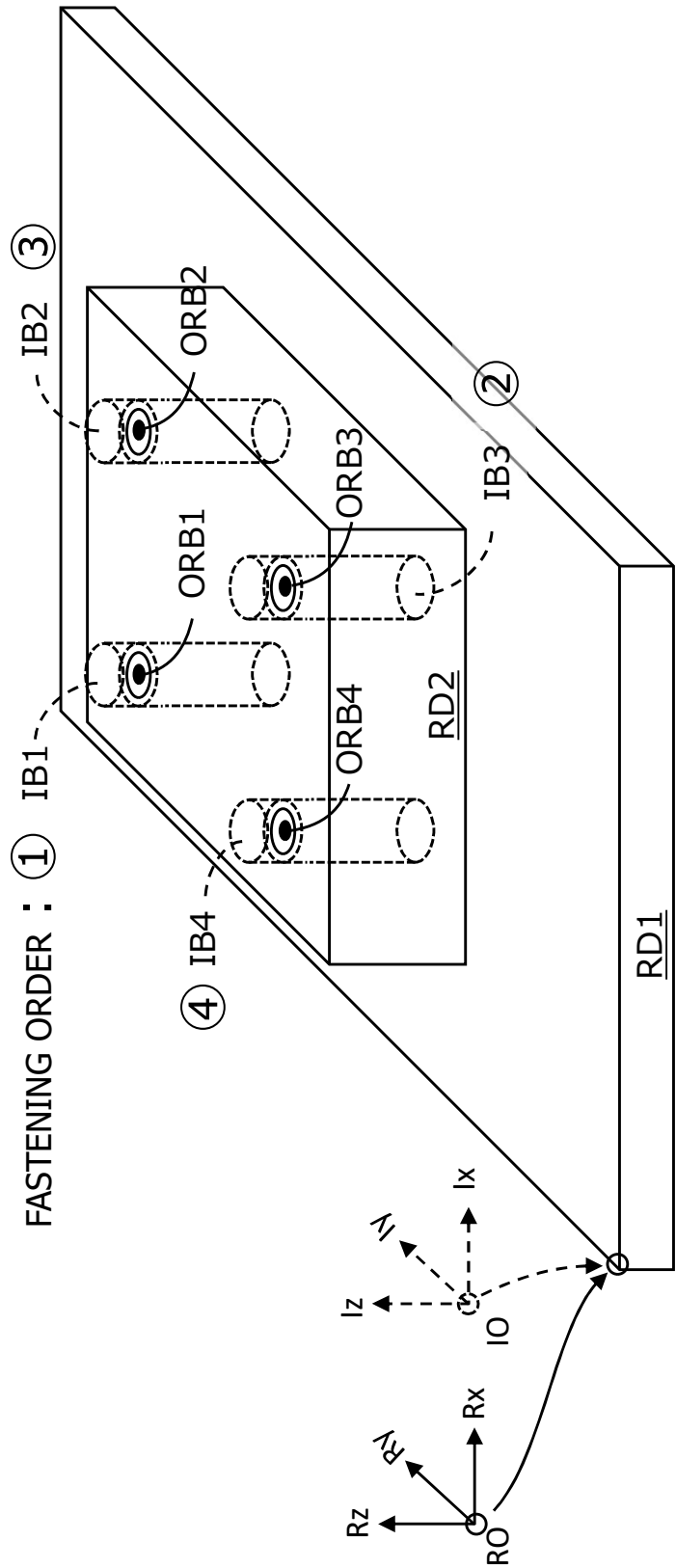
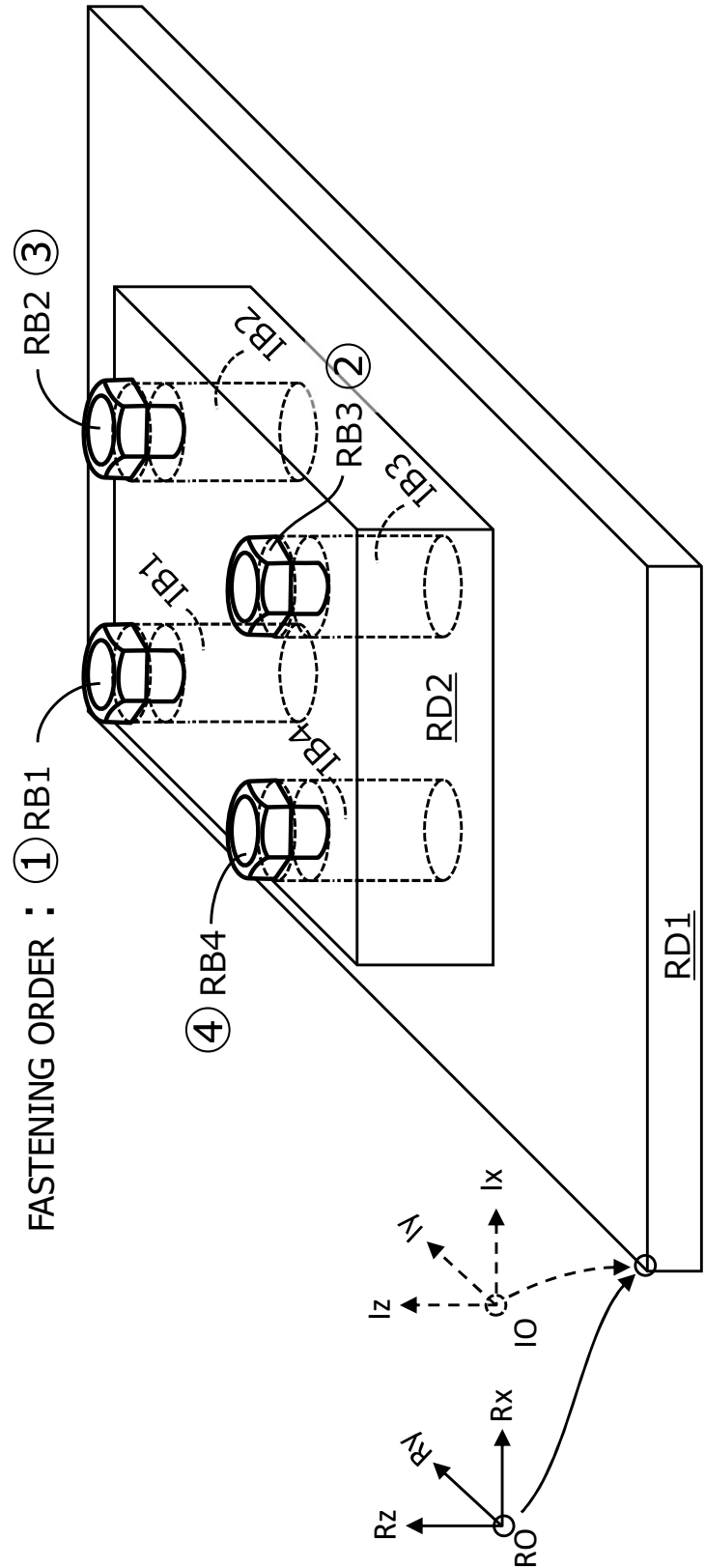


FIG. 21



DATA TABLE IN WHICH IS RECORDED BOLT FASTENING WORK BY SECOND WORKER													
No.	X	Y	Z	i	j	k	Tr _{Min} [Nm]	Tr _{Set} [Nm]	Tr _{Max} [Nm]	Tr _{rslt} [Nm]	ORDER (Seq)	WORK DATE	WORK TIME
RB1	x1	y1	z1	i1	j1	k1	20	30	40	33.2	1	2020/02/05	13:10:25
RB3	x3	y3	z3	i3	j3	k3	20	30	40	35.6	2	2020/02/05	13:12:02
RB2	x2	y2	z2	i2	j2	k2	20	30	40	27.8	3	2020/02/05	13:14:36
RB4	x4	y4	z4	i4	j4	k4	20	30	40	26.3	4	2020/02/05	13:18:00

BOLT POSITION COORDINATES

BOLT POSITION DIRECTION
(DIRECTION FOR DIRECTION VECTOR NV)
SEEN FROM TOOL REFERENCE PLANE

FASTENING TORQUE LOWER LIMIT, TARGET, UPPER LIMIT, RESULT, AND FASTENING ORDER

DATE AND TIME AT WHICH FASTENING WORK HAS BEEN PERFORMED

FIG. 24

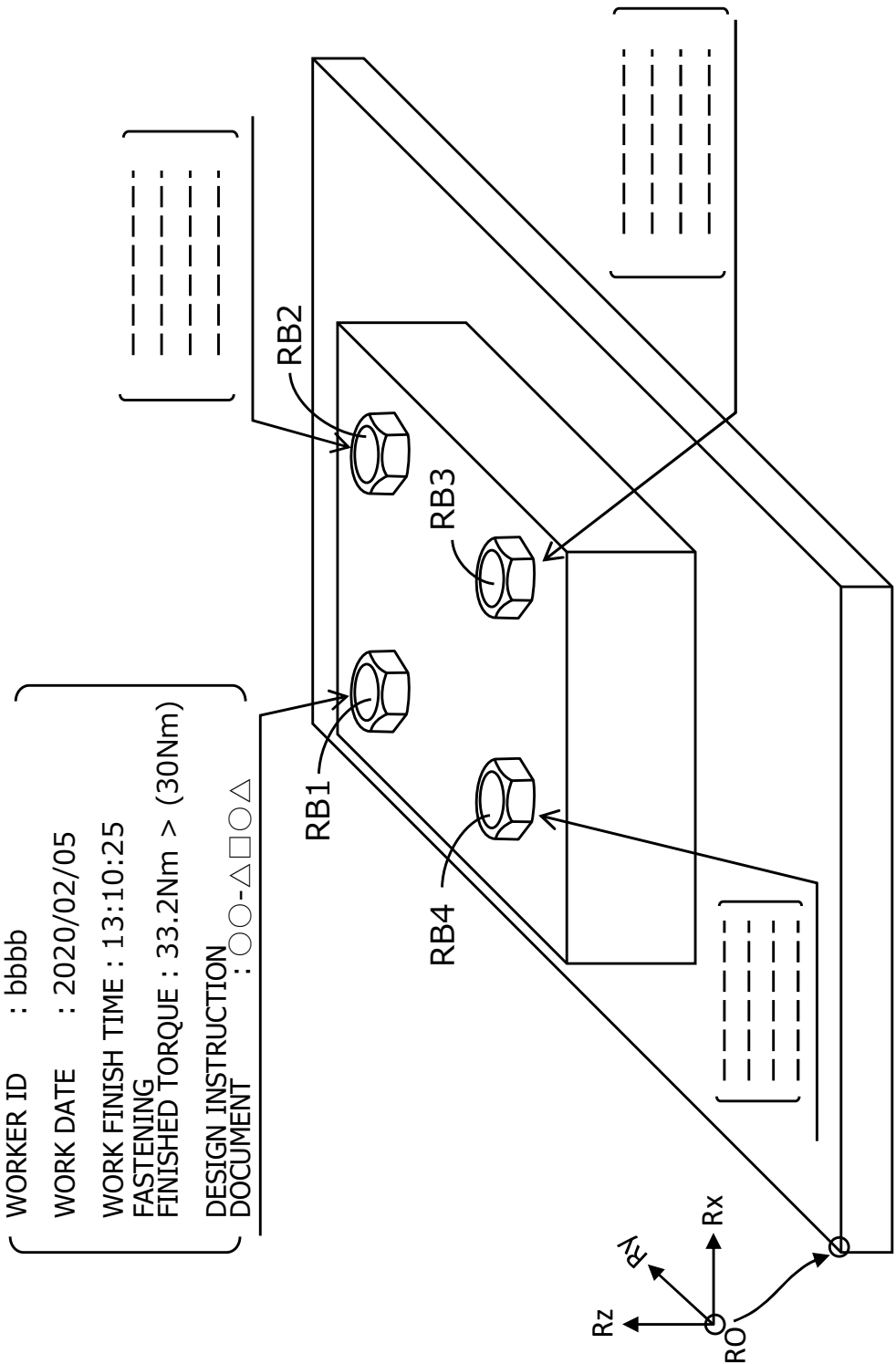


FIG. 25

