TABLE VII

THE PROPERTIES OF ALL COMPONENTS OF CAMERA

Index	Name	Dt.	bt (s)
1	Bolt A	Spanner-I	3
2	Bolt B	Spanner-I	3
3	Bolt C	Spanner-I	3
4	Component A	Gripper-I	2
5	Component B	Gripper-I	5
6	Component C	Gripper-II	4
7	Component D	Gripper-I	3
8	Component E	Gripper-II	4
9	Component F	Gripper-I	3
10	Component G	Gripper-II	8
11	Component H	Gripper-II	4
12	Component I	Gripper-I	2
13	Component J	Gripper-II	3
14	Bolt D	Spanner-II	3
15	Bolt E	Spanner-II	3
16	Bolt F	Spanner-II	3
17	Bolt G	Spanner-II	3

TABLE VIII

THE PROPERTIES OF SUBASSEMBLY OF CAMERA

Subassembly	csu	Cis	Dt.	bt (s)
sub_1	2	4, 5	Gripper-VI	7
sub_2	3	4, 5 and 6	Gripper-VI	11
sub_3	2	6, 7	Gripper-VI	7
sub_4	3	6, 7 and 8	Gripper-VI	11
sub_5	2	7 and 8	Gripper-VI	7
sub_6	2	9 and 10	Gripper-VI	11

TABLE IX

THE PROPERTIES OF ALL COMPONENTS OF GEAR PUMP

Index	Name	Dt.	bt (s)
1	Bolt A	Spanner-III	1
2	Bolt B	Spanner-III	1
3	Bolt C	Spanner-III	1
4	Bolt D	Spanner-III	1
5	Component A	Gripper-III	2
6	Component B	Gripper-III	3
7	Component C	Gripper-III	3
8	Component D	Gripper-V	4
9	Component E	Gripper-V	7

10	Component F	Gripper-III	3
11	Component G	Gripper-IV	4
12	Component H	Gripper-IV	4
13	Component I	Gripper-III	3
14	Component J	Gripper-III	3
15	Component K	Gripper-III	3
16	Component L	Gripper-IV	4
17	Component M	Gripper-V	6
18	Component N	Gripper-V	6
19	Component O	Gripper-IV	5
20	Bolt E	Spanner-IV	1
21	Bolt F	Spanner-IV	1
22	Bolt G	Spanner-IV	1
23	Bolt H	Spanner-IV	1
24	Component P	Gripper-III	3
25	Component Q	Gripper-III	2
26	Component R	Gripper-IV	4
27	Component S	Gripper-V	7
28	Component T	Gripper-III	3
29	Component U	Gripper-V	6
30	Component V	Gripper-V	6
31	Component W	Gripper-V	6

TABLE X

THE PROPERTIES OF SUBASSEMBLY OF GEAR PUMP

Subassembly	csu	Cis	$Dt.$	bt (s)
sub_1	3	6, 7 and 8	Gripper-VII	13
sub_2	2	6 and 7	Gripper-VII	7
sub_3	2	7 and 8	Gripper-VII	8
sub_4	2	8 and 9	Gripper-VII	12
sub_5	2	9 and 10	Gripper-VII	11
sub_6	2	9 and 11	Gripper-VII	12
sub_7	3	11, 12 and 18	Gripper-VII	16
sub_8	2	11 and 12	Gripper-VII	9
sub_9	2	17 and 18	Gripper-VII	13
sub_{10}	2	13 and 17	Gripper-VII	10
sub_{11}	2	14 and 17	Gripper-VII	10
sub_{12}	2	15 and 17	Gripper-VII	10
sub_{13}	2	16 and 17	Gripper-VII	11
sub_{14}	2	18 and 25	Gripper-VII	9
sub_{15}	4	11, 12, 18 and 25	Gripper-VII	19
sub_{16}	2	24 and 26	Gripper-VII	8
sub_{17}	2	19 and 28	Gripper-VII	9

TABLE XI

THE PARAMETERS OF DUELING DQN

EOLP	Parameters	Value
	Optimizer	Adam
	No. of hidden layers	1
	Neurons in layer	16
	Activation function	SiLU
	Learning rate, η	0.01
	Discount factor, γ	0.98
	Invariant value, Iv	30
	Exploration rate max	1.0
Camera	Exploration rate min	0.01
	Exploration rate decay	0.8
	Inputs of Network	43
	Outputs of Network	36
	Batch Size, bs	16
	Capacity size of $Pexp$, cap_s	1e5
	Network synchronization interval, Nsi	800
	The threshold of starting experience replay, ser	800
	Training runs	300
	Optimizer	Adam
	No. of hidden layers	3
	Neurons in layer	256
	Activation function	SiLU
	Learning rate, η	0.001
	Discount factor, γ	0.98
	Invariant value, Iv	30
	Exploration rate max	1.0
Gear	Exploration rate min	0.01
pump	Exploration rate decay	0.97
	Inputs of Network	82
	Outputs of Network	64
	Batch Size, bs	512
	Capacity size of $Pexp$, cap_s	1e7
	Network synchronization interval, Nsi	4e4
	The threshold of starting experience replay, ser	5e4
	Training runs	8200