1 Example 6.5 Engine Inverter with Parallel Branching.

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Start/stop/pause. Start prevented if reset in progress.

2 START_PB Int_Reset STOP_PB Run (M)
Run

3 Initial transition to step 1

4 Run Step_1 Step_2 Step_3 Step_4 Step_5 Step_6 Step_7 Step_8 Step_9 Step_10 Step_11 Step_12 Step_13 First_Start1

5 First_Start1 Step_14 Step_15 Step_1 (S)

6 Step 1 - Wait for pallet

7 Step_1 PROX1 Run Step_1 (R) Step_2 (S)

8 Step 2 - Move to hook 2. Keep engage hook 1 on for 2 secs. Trans to steps 3 & 4 when done.

9 TON Eng1_T... IN Q PT ET 2000
Step_2 Step_2 (R) Step_3 (S) Step_4 (S)

10 Step 3 & 4 - Raise pallet and lower rotator.

11 Step_3 PALL_UPLS Step_4 ROTR_DNLS Run Step_3 (R) Step_4 (R) Step_5 (S)

12 Step 5 - Clamp engine

13 TON Clmp_T... IN Q PT ET 1500
Step_5 Clmp_Dn

14 Clmp_Dn Run Step_5 (R) Step_6 (S)

15 Step 6 - Raise rotator

16 Step_6 ROTR_UPLS Run Step_6 (R) Step_7 (S)

17 Step 7 - Rotate clockwise

18 Step_7 ROTR_CWLS Run Step_7 (R) Step_8 (S)

19 Step 8 - Lower rotator

20 Step_8 ROTR_DNLS Run Step_8 (R) Step_9 (S)

21 Step 9 - Unclamp engine. Trans to steps 10 & 13 when done.

22 TON UnClmp... IN Q PT ET 1000
Step_9 Run Step_9 (R) Step_10 (S) Step_13 (S)

23 Step 10 - Raise rotator

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24 Step_10 ROTR_UPLS Run → R Step_10; S Step_11

25 Step 11 - Rotate CCW. Trans to step 12 (wait) when raised.

26 Step_11 ROTR_CCW... Run → R Step_11; S Step_12

27 Step 13 - Drop engine

28 Step_13 PALL_UPLS Run → R Step_13; S Step_14

29 Step 14 - Move out pallet. When timer done, trans to step 15 (wait)

30 TON Eng2_T... IN Q, PT ET, 3000; Step_14 → R Step_14; S Step_15

31 Step 12 & 15 - When both steps active, trans to step 1

32 Step_12 Step_15 Run → R Step_12; R Step_15; S Step_1

33 Start/stop for reset operation. Reset pb starts, reset step 4 stops it

34 RESET_PB Run RStep_4 Int_Reset → M Int_Reset

35 First press of reset pb starts reset

36 Int_Reset RStep_1 RStep_2 RStep_3 RStep_4 → S RStep_1

37 Reset Step 1 - Unclamp delay

38 TON RUnClm... IN Q, PT ET, 1000; RStep_1 → R RStep_1; S RStep_2

39 Reset Step 2 - Raise mechanism

40 RStep_2 ROTR_UPLS → R RStep_2; S RStep_3

41 Reset Step 3 - Rotate CCW

42 RStep_3 ROTR_CCW... → R RStep_3; S RStep_4

43 Reset Step 4 - Wait for Int_Reset to be unsealed

44 RStep_4 Int_Reset → R RStep_4

45 Reset steps of main operation

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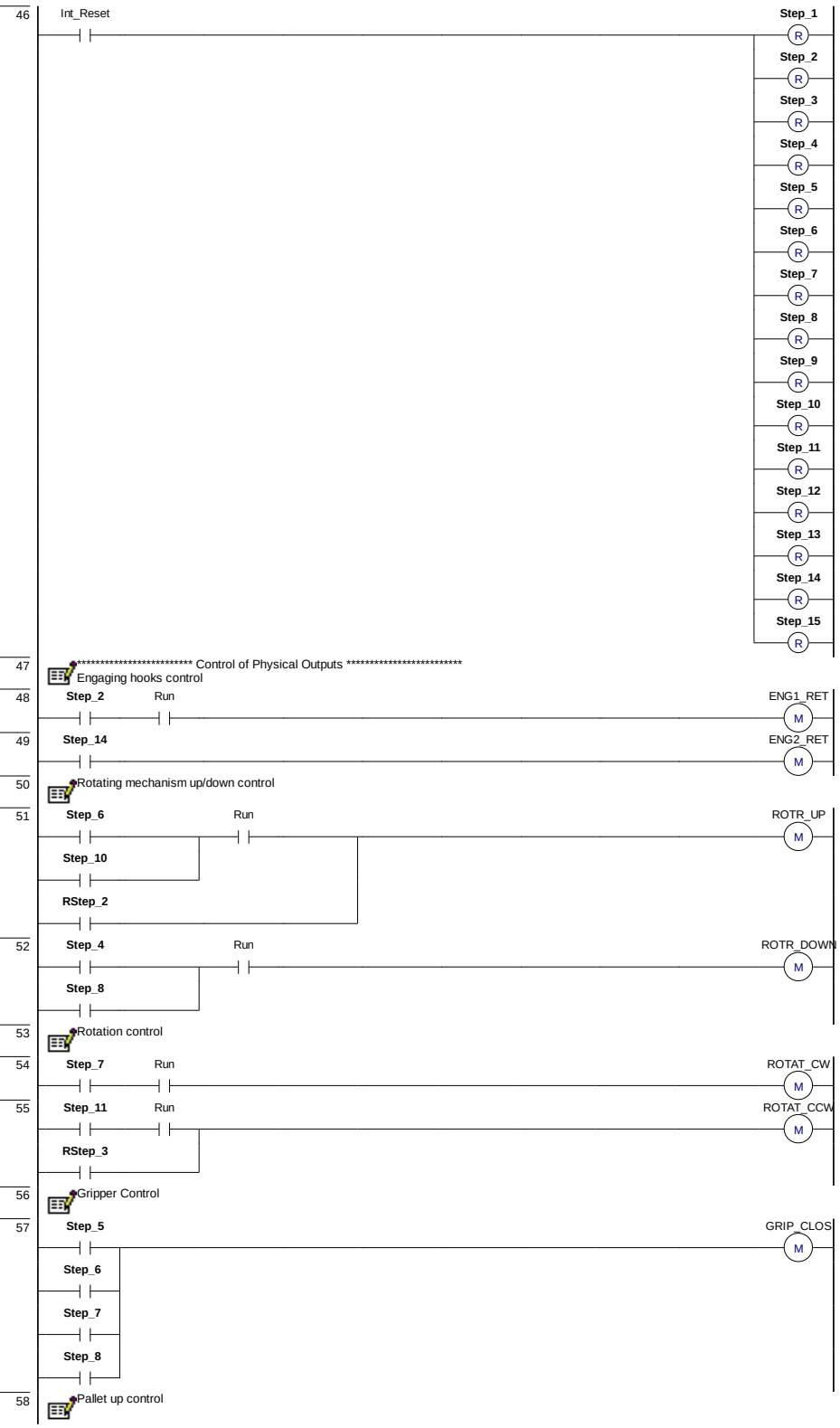

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