

ANNEX 5M**F3P – RADIO CONTROLLED INDOOR AEROBATIC AIRCRAFT****DESCRIPTION OF MANOEUVRES****Advanced – Schedule AA-21 (2020-2021)****II****AA-21.01 Cuban Eight with half roll, half roll**

From upright fly past center, perform a $\frac{5}{8}$ loop into a 45 degree downline, perform a $\frac{1}{2}$ roll, perform a $\frac{3}{4}$ loop into a 45 degree downline, perform a $\frac{1}{2}$ roll, pull through a $\frac{1}{8}$ loop, exit upright.

AA-21.02 Crossbox Stall Turn Combination with quarter roll, quarter roll

From upright, pull through a $\frac{1}{4}$ loop into a vertical upline, perform a $\frac{1}{4}$ roll, perform a stall turn into a vertical downline, push through a $\frac{1}{4}$ loop into a horizontal line, push through a $\frac{1}{4}$ loop into a vertical upline, perform a $\frac{1}{4}$ roll, perform a stall turn into a vertical downline, push through a quarter loop, exit inverted.

AA-21.03 Horizontal Triangle Circle with two half rolls opposite, roll

From inverted, fly past center, perform a 120 degree circle with wings level into a 60 degree crossbox line, perform consecutively two $\frac{1}{2}$ rolls in opposite direction, perform another 120 degree circle with wings level into a 60 degree crossbox line, perform a roll, perform a third 120 degree circle with wings level, exit inverted.

AA-21.04 Half Reverse Cuban Eight with roll

From inverted, push through a $\frac{1}{8}$ loop into a 45 degree upline, perform a roll, pull through a $\frac{5}{8}$ loop, exit upright.

AA-21.05 Torque Roll

From upright, pull through a $\frac{1}{4}$ loop into a vertical upline, perform a torque roll, push through a $\frac{1}{4}$ loop, exit upright.

AA-21.06 Half Square Loop on Corner

From upright push through a $\frac{1}{8}$ loop, push through a $\frac{1}{4}$ loop, push through a $\frac{1}{8}$ loop, exit inverted.

AA-21.07 Knife-Edge Flight

From inverted perform a $\frac{1}{4}$ roll into a sustained knife-edge flight, perform a $\frac{1}{4}$ roll, exit upright

AA-21.08 Pull Push Pull Humpty Bump Crossbox Combination with quarter roll

From upright, pull through a $\frac{1}{4}$ loop into a vertical upline, perform a $\frac{1}{4}$ roll, push through a $\frac{1}{2}$ loop into a vertical downline line, pull through a $\frac{1}{4}$ loop into a horizontal line, perform a $\frac{1}{4}$ circle with wings level, exit upright.

AA-21.09 Square Loop with half roll, half roll

From upright, pull through a $\frac{1}{4}$ loop into vertical upline, pull through a $\frac{1}{4}$ loop, perform a $\frac{1}{2}$ roll, push through a $\frac{1}{4}$ loop into vertical downline, push through a $\frac{1}{4}$ loop, perform a $\frac{1}{2}$ roll, exit upright.

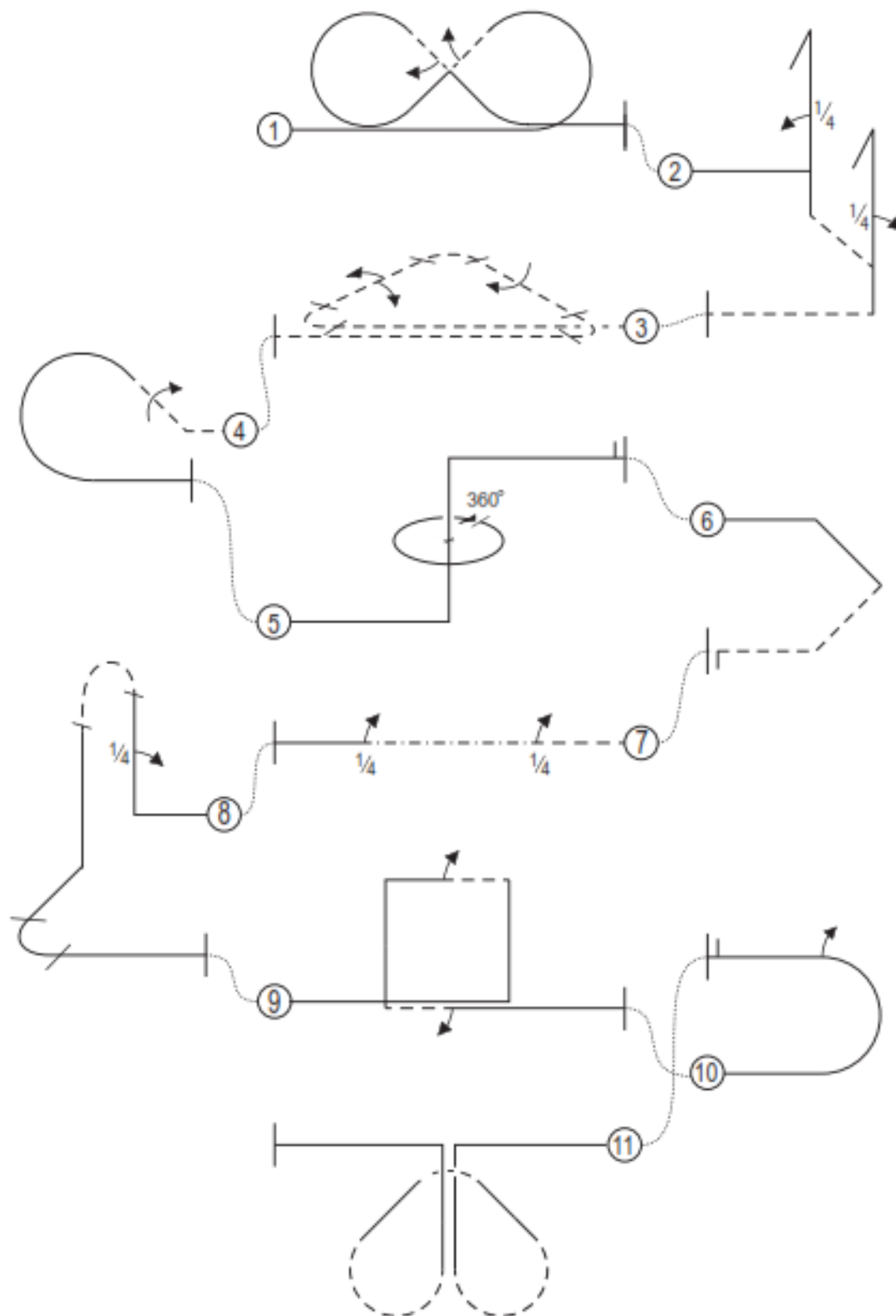
AA-21.10 Immelman

From upright, pull through a $\frac{1}{2}$ loop immediately followed by a $\frac{1}{2}$ roll, exit upright.

AA-21.11 Double Key from Top

From upright push through a $\frac{1}{4}$ loop into a vertical center downline push through a $\frac{5}{8}$ loop into a 45 degrees upline, push through a $\frac{1}{4}$ loop into a 45 degrees downline, push through a $\frac{5}{8}$ loop into a vertical center upline, push through a $\frac{1}{4}$ loop, exit upright

The Aresti diagram appears overleaf.

ADVANCED SCHEDULE AA-21 (2020-2021)

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Drawings by Ken Hirose
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Preliminary Schedule AP-21 (2020-2021)**AP-21.01 Knife-Edge Cuban Eight with quarter roll, half roll, quarter roll**

From upright perform a $\frac{1}{4}$ roll in the center, perform a $\frac{5}{8}$ knife edge loop into a 45 degree downline, perform a $\frac{1}{2}$ roll, perform a $\frac{3}{4}$ knife edge loop into a 45 degree downline, perform a $\frac{1}{4}$ roll, push through a $\frac{1}{8}$ loop, exit inverted.

AP-21.02 Crossbox Stall Turn combination with quarter roll, two consecutive quarter rolls, quarter roll

From inverted, push through a $\frac{1}{4}$ loop into a vertical upline, perform a $\frac{1}{4}$ roll, perform a stall turn into a vertical downline, push through a $\frac{1}{4}$ loop into a horizontal line, perform consecutively two $\frac{1}{4}$ rolls, pull through a $\frac{1}{4}$ loop into a vertical upline, perform a $\frac{1}{4}$ roll perform a stall turn into a vertical downline, push through a quarter loop, exit inverted.

AP-21.03 Horizontal Circle with two half rolls opposite integrated

From inverted, perform a circle while integrating a $\frac{1}{2}$ roll to the outside and another $\frac{1}{2}$ roll to the inside, exit inverted.

AP-21.04 Half Reverse Cuban Eight with half roll, half roll integrated

From inverted, push through a one eighth loop into a 45 degree upline, perform a $\frac{1}{2}$ roll, push through a $\frac{5}{8}$ loop while integrating a $\frac{1}{2}$ roll into the last 180 degrees of the $\frac{5}{8}$ loop, exit upright.

AP-21.05 Three quarter Torque Roll, Quarter Torque Roll in opposite direction with quarter rolls integrated into the quarter loops

From upright, pull through a $\frac{1}{4}$ loop into a vertical upline while integrating a $\frac{1}{4}$ roll, perform a $\frac{3}{4}$ torque roll, perform a $\frac{1}{4}$ torque roll in opposite direction, perform a $\frac{1}{4}$ knife-edge loop while integrating a $\frac{1}{4}$ roll, exit upright.

AP-21.06 Half Outside Loop, Loop

From upright push through a $\frac{1}{2}$ outside loop, pull through a loop, exit inverted.

AP-21.07 Knife-Edge Roll Combination with three quarter roll, half roll opposite, three quarter roll opposite

From inverted perform a $\frac{3}{4}$ roll into knife-edge flight, perform a $\frac{1}{2}$ roll in opposite direction into knife-edge flight, perform a $\frac{3}{4}$ roll in opposite direction to the $\frac{1}{2}$ roll, exit inverted

AP-21.08 Figure Nine Crossbox Combination with quarter roll, two consecutive quarter rolls, half roll integrated

From inverted, push through a $\frac{3}{4}$ loop into a vertical downline, perform a $\frac{1}{4}$ roll, push through a $\frac{1}{4}$ loop into a horizontal line, perform consecutively two $\frac{1}{4}$ rolls, perform a $\frac{1}{4}$ circle while integrating a $\frac{1}{2}$ roll, exit inverted.

AP-21.09 Square Loop on Corner, with quarter roll, quarter roll

From inverted, push through a $\frac{1}{8}$ loop into a 45 degree upline, perform a quarter roll, perform a $\frac{1}{4}$ knife-edge loop into a 45 degree upline, perform a $\frac{1}{4}$ knife-edge loop into a 45 degree downline, perform a $\frac{1}{4}$ roll, pull through a $\frac{1}{4}$ loop into a 45 degrees downline, pull through a $\frac{1}{8}$ loop, exit upright.

AP-21.10 Comet with half roll, half roll

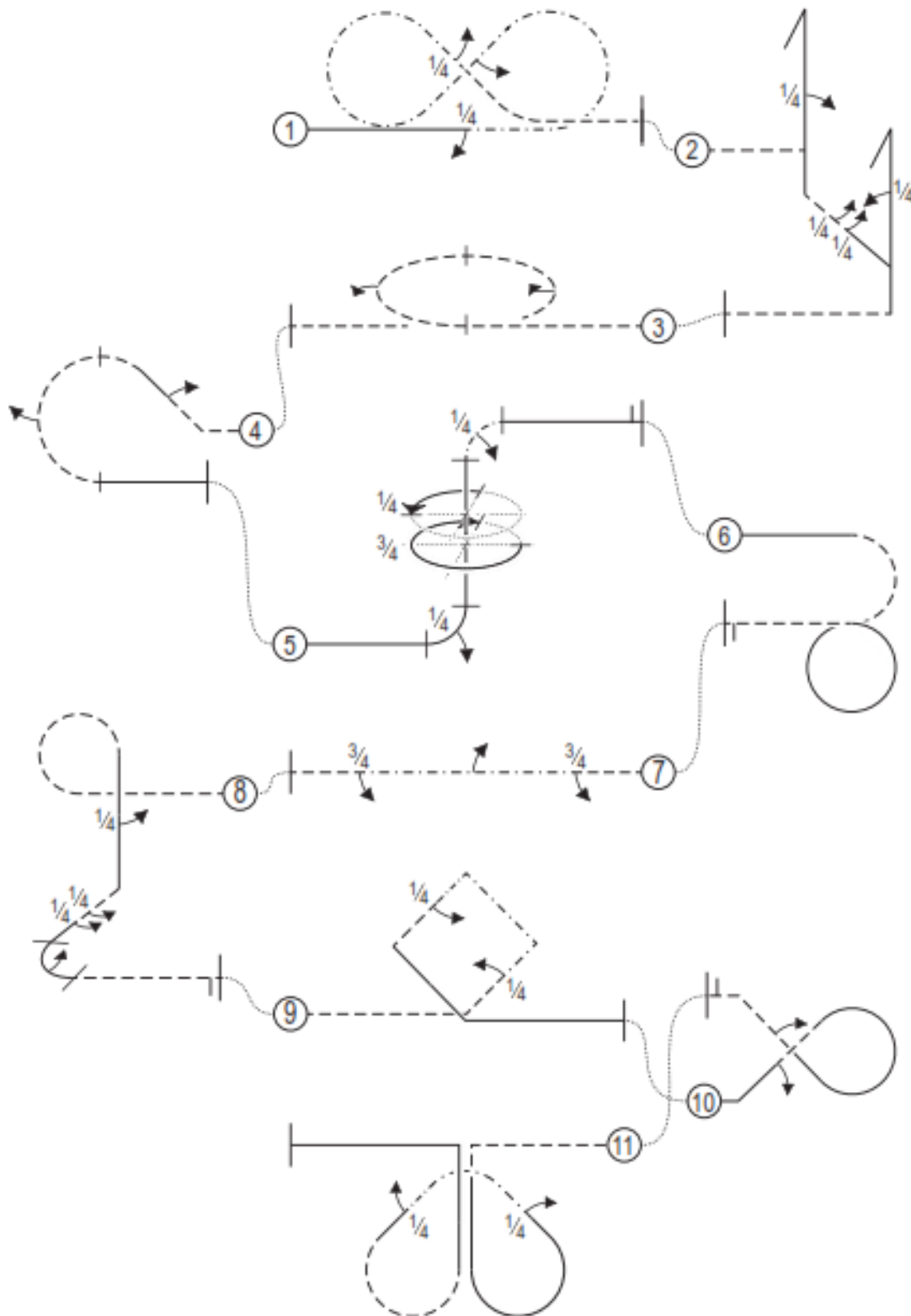
From upright, pull through a $\frac{1}{8}$ loop into a 45 degree upline, perform a $\frac{1}{2}$ roll, pull through a $\frac{3}{4}$ loop into another 45 degree upline, perform a $\frac{1}{2}$ roll, pull through a $\frac{1}{8}$ loop, exit inverted.

AP-21.11 Double Key from top with $\frac{1}{4}$ roll, $\frac{1}{4}$ roll

From inverted, pull through a $\frac{1}{4}$ loop into a vertical center downline pull through a $\frac{5}{8}$ loop into a 45 degrees upline, perform a $\frac{1}{4}$ roll, perform a $\frac{1}{4}$ knife-edge loop, perform a $\frac{1}{4}$ roll, push through a $\frac{5}{8}$ loop into a vertical center upline, push through a $\frac{1}{4}$ loop, exit upright

The Aresti diagram appears overleaf.

PRELIMINARY SCHEDULE AP-21 (2020-2021)



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Final Schedule AF-21 (2020-2021)**AF-21.01 Half Hourglass with two consecutive one eighth rolls, quarter roll, half roll**

From upright, before reaching the center pull through a $1/8$ loop perform consecutively two $1/8$ rolls into a 45 degree knife-edge upline, perform a $3/8$ knife edge loop into a horizontal line, perform a $1/4$ roll, pull through a $3/8$ loop into a 45 degree downline, perform a $1/2$ roll, push through a $1/8$ loop, exit inverted.

AF-21.02 Half Cuban Eight with roll integrated, two consecutive quarter rolls in opposite direction

From inverted, push through a $5/8$ loop into a 45 degree downline, while integrating a roll within the first 180 degrees of the $5/8$ loop, perform consecutively two $1/4$ rolls in opposite direction, pull through a $1/8$ loop, exit upright.

AF-21.03 Square Horizontal Eight with $1/4$ roll, $1/2$ roll, $1/4$ roll, $1/4$ roll, $1/2$ roll, $1/4$ roll

From upright, perform a quarter roll in the center, perform a $1/4$ knife-edge loop into a vertical upline, perform a $1/2$ roll, perform a $1/4$ knife edge loop (against entry direction), perform a $1/4$ roll into upright flight, push through a $1/4$ loop into a vertical downline, pull through a $1/4$ loop, perform a $1/4$ roll into knife edge flight, perform a $1/4$ knife-edge loop into a vertical upline, perform a $1/2$ roll, perform a $1/4$ knife edge loop into a horizontal line(in entry direction), perform a $1/4$ roll into upright flight, push through a $1/4$ loop into a vertical downline, pull through a $1/4$ loop, exit upright.

AF-21.04 Pull-Push-Pull Humpty Bump with quarter roll, two consecutive opposite half rolls integrated, quarter roll

From upright, pull through a $1/4$ loop into a vertical upline, perform a $1/4$ roll, push through a $1/2$ loop into a vertical downline, while integrating consecutively two $1/2$ rolls in opposite direction, perform a $1/4$ roll, pull through a $1/4$ loop, exit upright

AF-21.05 Horizontal Eight with half torque roll, half roll integrated, half torque roll, half roll integrated

From upright, fly past center pull through a $1/4$ loop, into a $1/2$ torque roll, followed by a pushed $1/4$ loop, push through a $1/4$ loop, while integrating the first $1/4$ of a $1/2$ roll, while continuing rolling (second $1/4$ of the $1/2$ roll) push through a $1/4$ loop, immediately push through a $1/4$ loop, into a $1/2$ torque roll, followed by a pulled $1/4$ loop, pull through a $1/4$ loop, while integrating the first $1/4$ of a $1/2$ roll, while continuing rolling (second $1/4$ of the $1/2$ roll) pull through a $1/4$ loop, exit upright.

Note: Radius size and shape of the horizontal eight must be maintained.

AF-21.06 Corner Combination with two consecutive quarter rolls, three quarter roll

From upright, perform a $1/4$ circle with wing level into a cross box line, perform consecutively two $1/4$ rolls push through a $1/4$ loop into a vertical upline, perform a $3/4$ roll, pull through a $1/4$ loop exit inverted.

AF-21.07 Reverse Double Fighter Turn with quarter roll, half roll, half roll, quarter roll

From inverted, pull through a $1/8$ loop into a 45 degree downline, perform a $1/4$ roll, push through a half knife edge circle into a 45 degree upline, perform a $1/2$ roll, perform a $1/4$ knife edge loop into a 45 degree downline, perform a $1/2$ roll, push through a $1/2$ knife edge circle into a forty five degree upline, perform a $1/4$ quarter roll, pull through $1/8$ loop, exit inverted.

AF-21.08 Half Loop with integrated roll

From inverted, pull through a $1/2$ loop while integrating a roll, exit upright.

AF-21.09 Horizontal Square with quarter roll, quarter circle with half roll integrated, two consecutive quarter rolls, quarter circle with half roll integrated, knife edge loop, quarter circle with half roll integrated, two consecutive quarter rolls, quarter circle with half roll integrated, quarter roll

From upright, perform a $1/4$ roll in the center, perform a $1/4$ circle while integrating a $1/2$ roll, perform consecutively two $1/4$ rolls, perform a $1/4$ circle while integrating a $1/2$ roll, perform a knife edge-loop, perform a $1/4$ circle while integrating a $1/2$ roll, perform consecutively two $1/4$ rolls, perform a $1/4$ circle while integrating a $1/2$ roll, perform a $1/4$ roll, exit upright.

AF-21.10 Trombone with three quarter roll, half roll integrated, three quarter roll

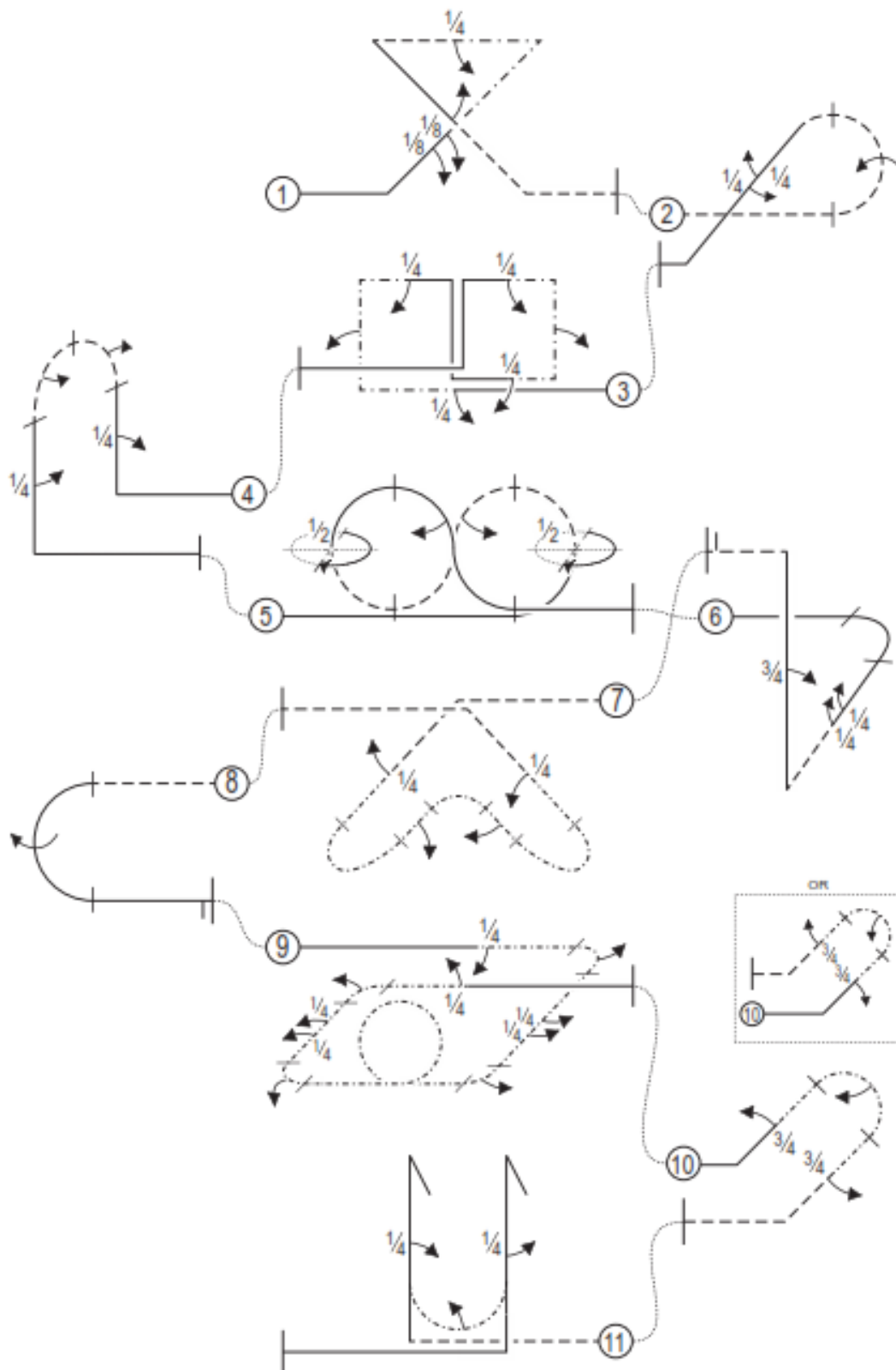
From upright, perform a $1/8$ loop into a 45° upline, perform a $3/4$ roll, perform a $1/2$ knife-edge loop into a 45 degree downline while integrating a $1/2$ roll, perform a $3/4$ roll, push through a $1/8$ loop, exit inverted.

AF-21.11 Double Stall Turn with quarter roll, half roll integrated, quarter roll

From inverted, fly past center, push through a $1/4$ loop into a vertical upline, perform a $1/4$ roll, perform a stall turn into a vertical downline, perform a $1/2$ knife-edge loop into a vertical upline, while integrating a half roll, perform a stall turn into a vertical downline, perform a $1/4$ roll, pull through a $1/4$ loop, exit upright.

The Aresti diagram appears below.

FINAL SCHEDULE AF-21 (2020-2021)



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