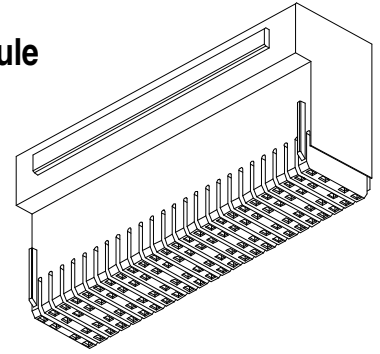




**\*VHDM-HSD™ Backplane Signal Insertion Module  
Application Tooling Specification  
Press-In Tool  
Order No. 62202-0202**



**FEATURES**

- Polarized tool prevents product damage.
- Tool provides uniform distribution of press force across entire pin array.
- May be used as a stand-alone tool or mounted in an optional tooling holder with other Molex press-in tools.

**SCOPE**

Products: \*VHDM-HSD™ Standard Shield Signal Module Assembly, (100 Circuits), 74695, 74696, 74697, and 74702 Series 5 Rows by 25 Columns Assemblies. See Product List below for specific part numbers.

**Product List**

The following is a partial list of the product order numbers and their specifications this tool is designed to run. Updates to this list are available on [www.molex.com](http://www.molex.com).

| 74695 Series Number |         |                       |            |            |            |            |            |
|---------------------|---------|-----------------------|------------|------------|------------|------------|------------|
| Guide Style         | Columns | Assembly Order Number |            |            |            |            |            |
| Open End            | 5       | 74695-2501            | 74695-2502 | 74695-2503 | 74695-2504 | 74695-2506 | 74695-2507 |
|                     |         | 74695-2508            | 74695-2509 |            |            |            |            |
|                     |         | 74695-2601            | 74695-2602 | 74695-2603 | 74695-2604 | 74695-2606 | 74695-2607 |
|                     |         | 74695-2608            | 74695-2609 |            |            |            |            |
|                     |         | 74695-8501            | 74695-8502 | 74695-8503 | 74695-8504 | 74695-8506 | 74695-8507 |
|                     |         | 74695-8508            | 74695-8509 |            |            |            |            |

| 74696 Series Number |         |                       |            |            |            |            |            |
|---------------------|---------|-----------------------|------------|------------|------------|------------|------------|
| Guide Style         | Columns | Assembly Order Number |            |            |            |            |            |
| Signal End          | 5       | 74696-2501            | 74696-2502 | 74696-2503 | 74696-2504 | 74696-2506 | 74696-2507 |
|                     |         | 74696-2508            | 74696-2509 | 74696-2511 | 74696-2512 | 74696-2513 | 74696-2514 |
|                     |         | 74696-2516            | 74696-2517 | 74696-2518 | 74696-2519 | 74696-2521 | 74696-2522 |
|                     |         | 74696-2523            | 74696-2524 | 74696-2526 | 74696-2527 | 74696-2528 | 74696-2529 |
|                     |         | 74696-2531            | 74696-2532 | 74696-2533 | 74696-2534 | 74696-2536 | 74696-2537 |
|                     |         | 74696-2538            | 74696-2539 | 74696-2541 | 74696-2542 | 74696-2543 | 74696-2544 |
|                     |         | 74696-2546            | 74696-2547 | 74696-2548 | 74696-2549 | 74696-2551 | 74696-2552 |
|                     |         | 74696-2553            | 74696-2554 | 74696-2556 | 74696-2557 | 74696-2558 | 74696-2559 |
|                     |         | 74696-2561            | 74696-2562 | 74696-2563 | 74696-2564 | 74696-2566 | 74696-2567 |
|                     |         | 74696-2568            | 74696-2569 | 74696-2571 | 74696-2572 | 74696-2573 | 74696-2574 |
|                     |         | 74696-2576            | 74696-2577 | 74696-2578 | 74696-2579 | 74696-2581 | 74696-2582 |
|                     |         | 74696-2583            | 74696-2584 | 74696-2586 | 74696-2587 | 74696-2588 | 74696-2589 |
|                     |         | 74696-2601            | 74696-2602 | 74696-2603 | 74696-2604 | 74696-2606 | 74696-2607 |
|                     |         | 74696-2608            | 74696-2609 | 74696-2611 | 74696-2612 | 74696-2613 | 74696-2614 |
|                     |         | 74696-2616            | 74696-2617 | 74696-2618 | 74696-2619 | 74696-2621 | 74696-2622 |
|                     |         | 74696-2623            | 74696-2624 | 74696-2626 | 74696-2627 | 74696-2628 | 74696-2629 |
|                     |         | 74696-2631            | 74696-2632 | 74696-2633 | 74696-2634 | 74696-2636 | 74696-2637 |
|                     |         | 74696-2638            | 74696-2639 | 74696-2641 | 74696-2642 | 74696-2643 | 74696-2644 |
|                     |         | 74696-2646            | 74696-2647 | 74696-2648 | 74696-2649 | 74696-2651 | 74696-2652 |
|                     |         | 74696-2653            | 74696-2654 | 74696-2656 | 74696-2657 | 74696-2658 | 74696-2659 |

| 74696 Series Number |         |                       |            |            |            |            |            |
|---------------------|---------|-----------------------|------------|------------|------------|------------|------------|
| Guide Style         | Columns | Assembly Order Number |            |            |            |            |            |
| Signal End          | 5       | 74696-2661            | 74696-2662 | 74696-2663 | 74696-2664 | 74696-2666 | 74696-2667 |
|                     |         | 74696-2668            | 74696-2669 | 74696-2671 | 74696-2672 | 74696-2673 | 74696-2674 |
|                     |         | 74696-2676            | 74696-2677 | 74696-2678 | 74696-2679 | 74696-2681 | 74696-2682 |
|                     |         | 74696-2683            | 74696-2684 | 74696-2686 | 74696-2687 | 74696-2688 | 74696-2689 |
|                     |         | 74696-8501            | 74696-8502 | 74696-8503 | 74696-8504 | 74696-8506 | 74696-8507 |
|                     |         | 74696-8508            | 74696-8509 | 74696-8511 | 74696-8512 | 74696-8513 | 74696-8514 |
|                     |         | 74696-8516            | 74696-8517 | 74696-8518 | 74696-8519 | 74696-8521 | 74696-8522 |
|                     |         | 74696-8523            | 74696-8524 | 74696-8526 | 74696-8527 | 74696-8528 | 74696-8529 |
|                     |         | 74696-8531            | 74696-8532 | 74696-8533 | 74696-8534 | 74696-8536 | 74696-8537 |
|                     |         | 74696-8538            | 74696-8539 | 74696-8541 | 74696-8542 | 74696-8543 | 74696-8544 |
|                     |         | 74696-8546            | 74696-8547 | 74696-8548 | 74696-8549 | 74696-8551 | 74696-8552 |
|                     |         | 74696-8553            | 74696-8554 | 74696-8556 | 74696-8557 | 74696-8558 | 74696-8559 |
|                     |         | 74696-8561            | 74696-8562 | 74696-8563 | 74696-8564 | 74696-8566 | 74696-8567 |
|                     |         | 74696-8568            | 74696-8569 | 74696-8571 | 74696-8572 | 74696-8573 | 74696-8574 |
|                     |         | 74696-8576            | 74696-8577 | 74696-8578 | 74696-8579 | 74696-8581 | 74696-8582 |
|                     |         | 74696-8583            | 74696-8584 | 74696-8586 | 74696-8587 | 74696-8588 | 74696-8589 |

| 74697 Series Number |            |                       |            |            |            |            |            |
|---------------------|------------|-----------------------|------------|------------|------------|------------|------------|
| Guide Style         | Columns    | Assembly Order Number |            |            |            |            |            |
| Shield End          | 5          | 74697-2501            | 74697-2502 | 74697-2503 | 74697-2504 | 74697-2506 | 74697-2507 |
|                     |            | 74697-2508            | 74697-2509 | 74697-2511 | 74697-2512 | 74697-2513 | 74697-2514 |
|                     |            | 74697-2516            | 74697-2517 | 74697-2518 | 74697-2519 | 74697-2521 | 74697-2522 |
|                     |            | 74697-2523            | 74697-2524 | 74697-2526 | 74697-2527 | 74697-2528 | 74697-2529 |
|                     |            | 74697-2531            | 74697-2532 | 74697-2533 | 74697-2534 | 74697-2536 | 74697-2537 |
|                     |            | 74697-2538            | 74697-2539 | 74697-2541 | 74697-2542 | 74697-2543 | 74697-2544 |
|                     |            | 74697-2546            | 74697-2547 | 74697-2548 | 74697-2549 | 74697-2551 | 74697-2552 |
|                     |            | 74697-2553            | 74697-2554 | 74697-2556 | 74697-2557 | 74697-2558 | 74697-2559 |
|                     |            | 74697-2561            | 74697-2562 | 74697-2563 | 74697-2564 | 74697-2566 | 74697-2567 |
|                     |            | 74697-2568            | 74697-2569 | 74697-2571 | 74697-2572 | 74697-2573 | 74697-2574 |
|                     |            | 74697-2576            | 74697-2577 | 74697-2578 | 74697-2579 | 74697-2581 | 74697-2582 |
|                     |            | 74697-2583            | 74697-2584 | 74697-2586 | 74697-2587 | 74697-2588 | 74697-2589 |
|                     |            | 74697-2601            | 74697-2602 | 74697-2603 | 74697-2604 | 74697-2606 | 74697-2607 |
|                     |            | 74697-2608            | 74697-2609 | 74697-2611 | 74697-2612 | 74697-2613 | 74697-2614 |
|                     |            | 74697-2616            | 74697-2617 | 74697-2618 | 74697-2619 | 74697-2621 | 74697-2622 |
|                     |            | 74697-2623            | 74697-2624 | 74697-2626 | 74697-2627 | 74697-2628 | 74697-2629 |
|                     |            | 74697-2631            | 74697-2632 | 74697-2633 | 74697-2634 | 74697-2636 | 74697-2637 |
|                     |            | 74697-2638            | 74697-2639 | 74697-2641 | 74697-2642 | 74697-2643 | 74697-2644 |
|                     |            | 74697-2646            | 74697-2647 | 74697-2648 | 74697-2649 | 74697-2651 | 74697-2652 |
|                     |            | 74697-2653            | 74697-2654 | 74697-2656 | 74697-2657 | 74697-2658 | 74697-2659 |
| 74697-2661          | 74697-2662 | 74697-2663            | 74697-2664 | 74697-2666 | 74697-2667 |            |            |
| 74697-2668          | 74697-2669 | 74697-2671            | 74697-2672 | 74697-2673 | 74697-2674 |            |            |
| 74697-2676          | 74697-2677 | 74697-2678            | 74697-2679 | 74697-2681 | 74697-2682 |            |            |
| 74697-2683          | 74697-2684 | 74697-2686            | 74697-2687 | 74697-2688 | 74697-2689 |            |            |
| 74697-8501          | 74697-8502 | 74697-8503            | 74697-8504 | 74697-8506 | 74697-8507 |            |            |
| 74697-8508          | 74697-8509 | 74697-8511            | 74697-8512 | 74697-8513 | 74697-8514 |            |            |
| 74697-8516          | 74697-8517 | 74697-8518            | 74697-8519 | 74697-8521 | 74697-8522 |            |            |
| 74697-8523          | 74697-8524 | 74697-8526            | 74697-8527 | 74697-8528 | 74697-8529 |            |            |
| 74697-8531          | 74697-8532 | 74697-8533            | 74697-8534 | 74697-8536 | 74697-8537 |            |            |
| 74697-8538          | 74697-8539 | 74697-8541            | 74697-8542 | 74697-8543 | 74697-8544 |            |            |
| 74697-8546          | 74697-8547 | 74697-8548            | 74697-8549 | 74697-8551 | 74697-8552 |            |            |
| 74697-8553          | 74697-8554 | 74697-8556            | 74697-8557 | 74697-8558 | 74697-8559 |            |            |
| 74697-8561          | 74697-8562 | 74697-8563            | 74697-8564 | 74697-8566 | 74697-8567 |            |            |
| 74697-8568          | 74697-8569 | 74697-8571            | 74697-8572 | 74697-8573 | 74697-8574 |            |            |

| 74697 Series Number |         |                       |            |            |            |            |            |
|---------------------|---------|-----------------------|------------|------------|------------|------------|------------|
| Guide Style         | Columns | Assembly Order Number |            |            |            |            |            |
| Shield End          | 5       | 74697-8576            | 74697-8577 | 74697-8578 | 74697-8579 | 74697-8581 | 74697-8582 |
|                     |         | 74697-8583            | 74697-8584 | 74697-8586 | 74697-8587 | 74697-8588 | 74697-8589 |

| 74702 Series Number |         |                       |            |            |            |            |            |
|---------------------|---------|-----------------------|------------|------------|------------|------------|------------|
| Guide Style         | Columns | Assembly Order Number |            |            |            |            |            |
| Custom              | 5       | 74702-0008            | 74702-0009 | 74702-0010 | 74702-0020 | 74702-0021 | 74702-0022 |
|                     |         | 74702-0027            | 74702-0030 |            |            |            |            |

\*VHDM-HSD™ is a registered trademark of Teradyne, Inc.

### Tool Setup

Depending on the number of connectors to be installed and/or the press used, this tool can be used alone or with a group of press-in tools, mounted in a 62201-95XX tooling holder (ordered separately). See Figure 1.

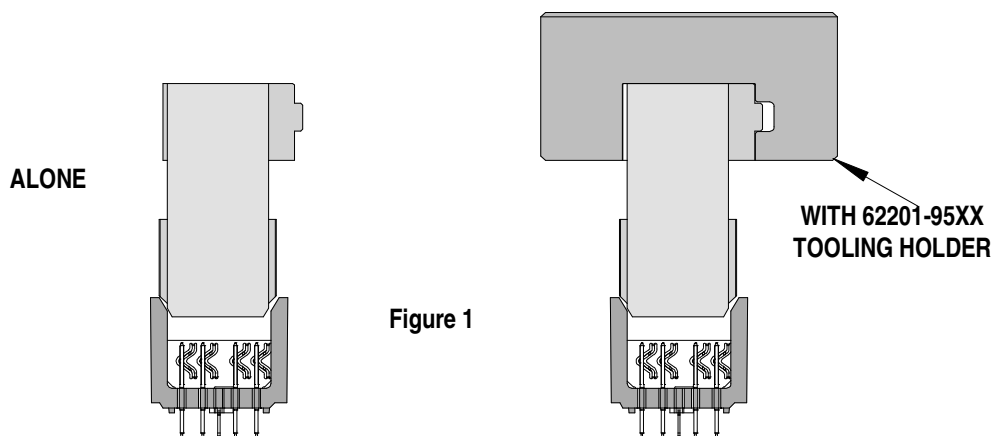


Figure 1

### Tool Installation

The 62201-95XX tooling holder is available in a variety of lengths to accommodate multiple press-in tools.

| Tooling Holder Part Number | Rail Overall Length |
|----------------------------|---------------------|
| 62201-9501                 | 24mm (0.94 in)      |
| 62201-9502                 | 72mm (2.83 in)      |
| 62201-9503                 | 156mm (6.14 in)     |
| 62201-9504                 | 216mm (8.50 in)     |
| 62201-9509                 | 254mm (10.0 in)     |
| 62201-9511                 | 305mm (12.0 in)     |

Reference: The 62202-0201 Press-In Tool is 49.9mm (1.97 in.) long by 25.0mm (.984 in.) high.

### Printed Circuit Board (PCB) Support

The \*VHDM-HSD™ connectors requires a large amount of force per pin to press into the PCB. To prevent excessive PCB flexure and/or damage to the PCB, a support plate is strongly recommended directly beneath the connector hole pattern.

Due to the custom nature of every application, Molex does not offer any PCB support plate. The customer must furnish their own support plate.

When creating the PCB support plate, remember to allow clearance for the connector pins as they pass through the PCB thickness.

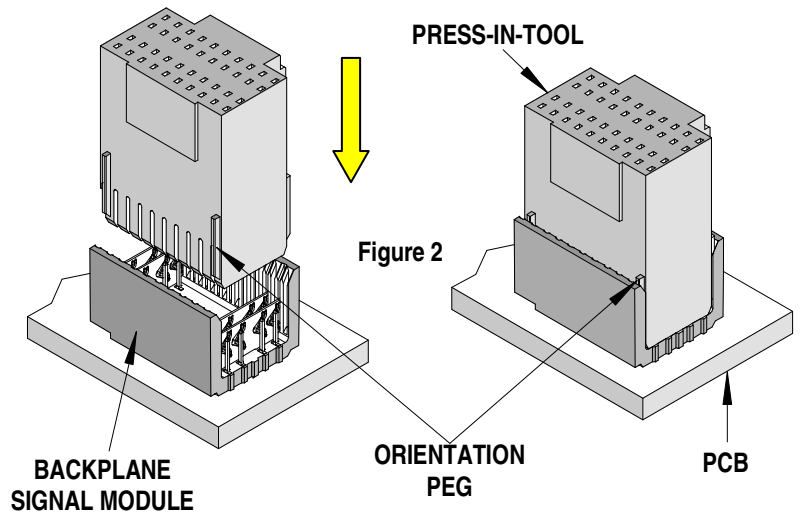
### Press Equipment Recommendations

Many types of presses can be used to install \*\*VHDM-HSD™ connectors, but to assure consistent connector installation Molex recommends the following press criteria:

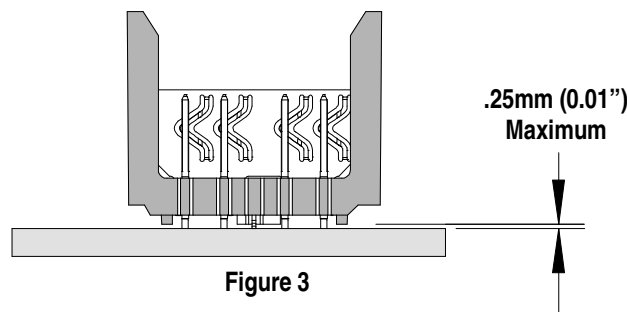
1. The capability to detect force variations as low as 4.5kg (10 lb) during the press-in cycle; excessive force measurements should stop the press-in cycle.
2. The rate of pressing can be regulated as low as 0.13mm (0.005 in) per second.
3. Press stroke control to within 0.25mm (0.010 in).
4. Total press stroke must be at least 19mm (0.75 in).
5. For statistical purposes, automatic collection of force and distance data.

### Tool Operation

1. Carefully insert, by hand, the backplane signal module(s) into the PCB hole pattern. Make sure the connector(s) are oriented properly.
2. Insert the press-in-tool into the backplane signal module assembly with the orientation peg on the tool entering the groove in the connector housing. Make sure all the pins and shields fit into the proper slots. See Figure 2.



3. Using the application tool and an appropriate press, seat the header assembly until there is less than 0.25mm (0.01 in) clearance between the bottom of the plastic housing and the surface of the PCB. See Figure 3.



**CAUTION:** To prevent injury, never operate any press without the guards in place. Refer to the press manufacturer's instruction manual.

**CAUTION:** Molex application tooling specifications are valid only when used with Molex connectors and tooling.

### Contact Information

For more information on Molex application tooling please contact Molex at 1-800-786-6539.

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